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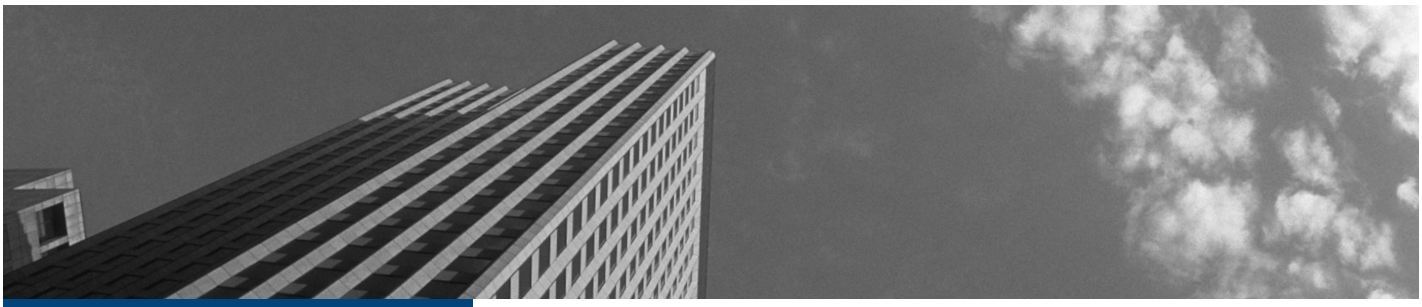
Rittling Steel Panel Radiators

Catalog



Distinguished by its space-saving and energy-saving models and attractive designs, Rittling Radiators meets the highest standards of form, function and conservation.

Perimeter, wall-mounted, ceiling and vertical mounted options can be customized to suit any structure.

Rittling's innovative, modular design is easy to install, and ensures that every room will be heated evenly and efficiently. For clean, reliable and hassle-free heating with a sophisticated look to accent any décor, look to Rittling Radiators.

If you do not see it here, consult your local Rittling representative; Chances are we can do it!

Radiant Heating That Looks as Good as it Feels!

Everywhere you look…

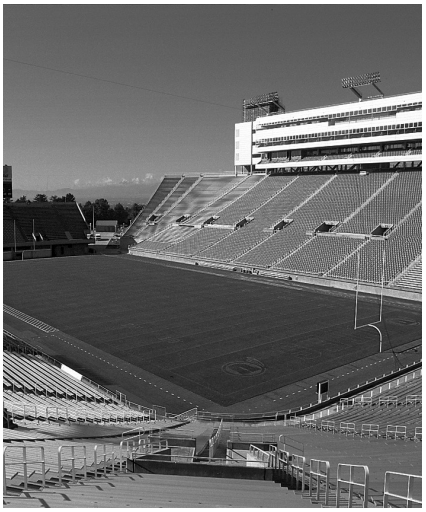
Rittling's sleek, Euro-style design and advanced hydronic technology are making stunning impressions.

From the boardroom to the classroom, it's getting hard not to notice the design revolution in radiant heating - form and function have never been combined in such harmony.

Rittling Radiator is found in corporate and government offices, schools, libraries, hospitals, museums, restaurants, casinos, retail stores and shopping malls, sports facilities, convention centers, churches, courtrooms, manufacturing facilities and correctional institutions and countless other buildings in North America.

HILBERT COLLEGE

Rittling Radiator was the intelligent choice for Hilbert College when designing Franciscan Hall. Visually striking and designed for maximum energy efficiency, this radiant heating system takes first honors.



RICE STADIUM

Rice Stadium at the University of Utah was built for big-time college football and designed for long-time fans. Rittling Radiator creates a blanket of warmth that keeps those fans comfortable and helps keep them coming back for more.

Rittling
A Zehnder Group Company

THE FUTURE OF HYDRONIC HEATING

Rittling Radiator models offer the best of both worlds - advanced hydronic technology and the sleek, popular appearance of Euro-style design.

Form, function, comfort and energy conservation are all engineered in an environmentally-sound way to provide clean, efficient and reliable heating for a variety of applications.

QUIET, COMFORTABLE HEATING

Rittling Radiator heating units provide an exceptionally silent, even blanket of comfortable warmth. There are no drafts, cold spots or drying.

REDUCE HEATING COSTS

Broad radiating surfaces reduce energy consumption by providing high comfort levels at lower thermostat settings.

FOUR DECORATOR DESIGNED STYLES

The slim, elegant profile and sleek finish will accent traditional or contemporary decor. All plumbing connections are concealed when optional trims are provided. Available in perimeter, wall mounted, and ceiling or vertical styles. Choose one style or a combination to complete an installation. Rittling Radiators come in an assortment of six standard colors or can be custom matched to meet your specific needs.

QUICK INSTALLATION

Single-piece, modular construction makes the units easy to configure and simple to install.

DURABLE

Rugged heavy-gauge, all welded-steel construction ensures long life at top operating efficiency. Polyester-epoxy powder coating also provides a long lasting protective finish.

EASY TO CLEAN & MAINTAIN

Low-level convector panels will not trap or burn-in dust and are exceptionally easy to clean.

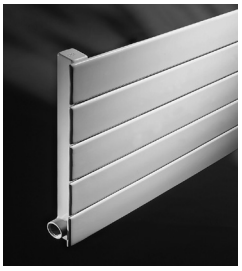
5-YEAR LIMITED WARRANTY

Rittling Radiator installations are warranteed for five years against defects in materials and manufacturing.

CINCINNATI REDS HALL OF FAME

The Reds Hall of Fame and Gift shop have Rittling Radiator Model PRF-2 installed on the perimeter, in a custom silver color. Custom finishes and designs can be ordered per job to fit your application best.

Rittling Radiator Models & Specifications

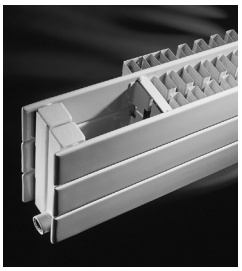


PR
One set of radiant panels, in one or more rows.

PRF
One or more rows of radiant panels with convective fins attached to the back.

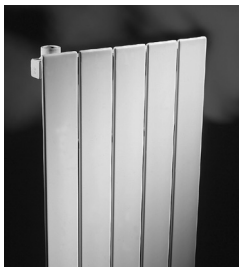
PR2
Two sets of radiant panels, in one or more rows, mounted back-to-back.

PR2F
Two sets of radiant panels, each with convective fins attached to the back; mounted back-to-back



PR3F
Two sets of radiant panels mounted back-to-back. The radiant panels have convective fins between the units and on the rear.

PRC
One or more rows of radiant panels for overhead mounting.



PRV
One or more rows of radiant panels for vertical mounting.

PRTW
Towel Warmer, one or more rows of radiant panels.

GENERAL SPECIFICATIONS

Radiator units feature a flat radiant tube design to enhance system efficiency and provide aesthetic appeal. Flat radiant tubes to be manufactured from low carbon steel that are welded at each end to low carbon steel square headers. Headers will contain all supply, return and air vent connections as required. Radiators to be supplied with standard 1/2" female tapered NPT female pipe connections (3/4" NPT pipe connections are optional) and 1/8" female tapered NPT air vent connections. Internal baffles to be provided to assure proper water flow.

Radiator units to be rated for low or high pressure. Low pressure units to be rated for 56 PSIG working pressure and 74 PSIG test pressure; high pressure units to be rated for 128 PSIG working pressure and 184 PSIG test pressure. Each completed unit to be individually tested for a minimum of five minutes by immersing the pressurized unit in a rust inhibiting solution.

All radiators shall be degreased and chemically phosphatized before the application of a durable, attractive, 2 to 3 mil (0.002" – 0.003") thick electrostatic polyester epoxy powder coat finish. Color to be selected from standard color chart or custom color matched as required.

Radiators to be supplied with all required wall mounting brackets (pedestal brackets are optional) for noise-free operation. Mounting brackets to allow for continuous mounting and unhindered expansion and contraction. Radiator expansion not to exceed 0.016 inches at 215 °F. Piping allowance for expansion and contraction to be provided by others.

Trims manufactured to match the appearance of the radiators shall be available and shall be manufactured from 20-GA cold-rolled steel. Trims to be painted and finished the same as the radiators.

Each radiator and all trims to be individually tagged, wrapped in foam and then crated for shipment.

Necessary wall blocking for proper support and installation of radiators to be by others.

Component fabrication and final assembly is completed in the U.S.A. to the sizes, capacities and quantities as shown on the plans and schedule.

Product Details

A - TUBE SPECIFICATIONS

- Cold rolled steel tubes

PRESSURE			WALL THICKNESS
LEVEL	WORKING (psig)	TEST (psig)	
Low	56	74	0.048" min.
High	128	184	0.078" min.

- Cold rolled steel headers 11-GA; 0.125", 3.2 mm.

B - FLOW RATE CONSIDERATIONS

- Flat tube design offers comparably lower flow rates than with round tube units.
- Provide higher delta T's and lower average water temperatures while allowing for the use of smaller pumps and improving system efficiency.

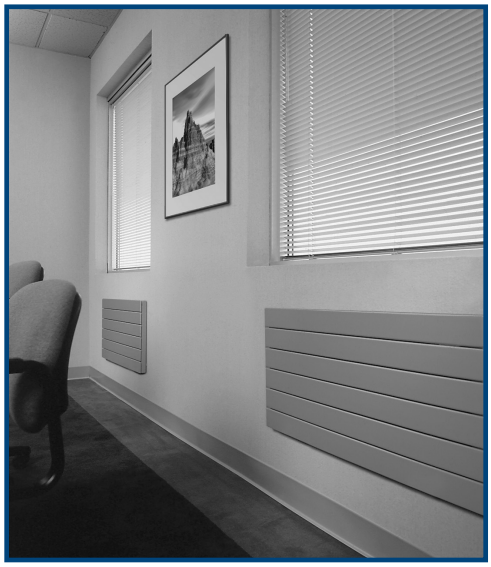
C - PIPING ARRANGEMENTS

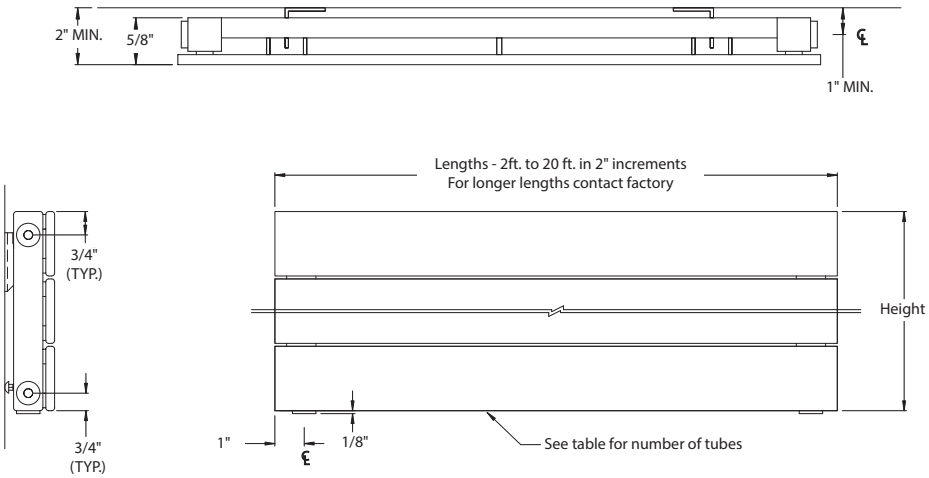
- Flow connections of 1/2" NPT, 3/4" optional. Vent connections of 1/8" NPT. See page 14 for more Piping Information. For larger pipe sizes or special piping arrangements, contact your Rittling Radiator representative.

D - FINISHING

- Cleaned and degreased in an iron phosphate solution prior to the application of a polyester epoxy powder finish as selected from the Rittling Radiator color chart. See diagram below for the Powder Coating System process.

Model PR





NOTE: UNIT SHOWN (AT LEFT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 17 FOR CONNECTION LOCATIONS AND SIZES OFFERED. NOT ALL HEIGHTS AVAILABLE WITH ALL LENGTHS.

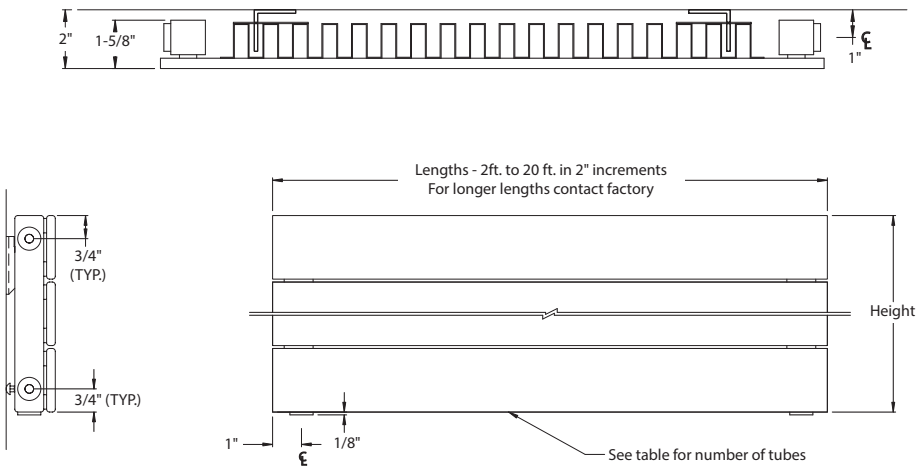
Guaranteed Ratings

IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Height (in.)	**Minimum Installed Height (in.)**	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
				factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
				215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PR-1	1	2.75	5.75	231	181	162	144	127	109	93	77	62	1.3
PR-2	2	5.75	8.75	416	326	292	260	228	197	167	139	112	2.4
PR-3	3	8.625	11.625	615	483	433	384	337	292	248	206	165	3.5
PR-4	4	11.50	14.50	811	636	571	507	445	385	327	271	218	4.6
PR-5	5	14.375	17.375	1,012	794	712	632	555	480	408	338	272	5.7
PR-6	6	17.25	20.25	1,219	956	858	761	668	578	491	407	327	6.8
PR-7	7	20.25	23.25	1,429	1,122	1,006	893	784	678	576	478	384	8.0
PR-8	8	23.125	26.125	1,638	1,285	1,153	1,023	898	777	660	547	440	9.1
PR-9	9	26.125	29.125	1,846	1,449	1,300	1,154	1,013	876	744	617	496	10.2
PR-10	10	29.00	32.00	2,057	1,614	1,448	1,285	1,128	976	829	688	552	11.3

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500)
Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PRF



NOTE: UNIT SHOWN (AT RIGHT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 17 FOR CONNECTION LOCATIONS AND SIZES OFFERED. NOT ALL HEIGHTS AVAILABLE WITH ALL LENGTHS.

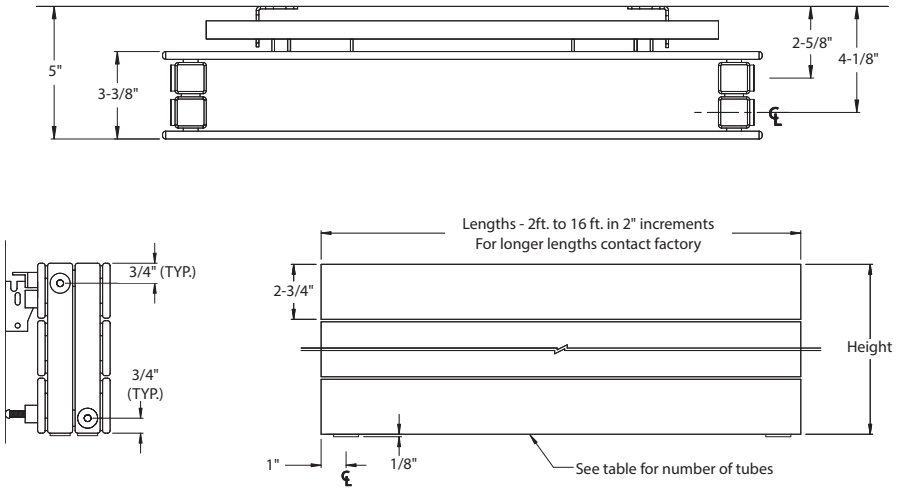
Guaranteed Ratings

IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Height (in.)	**Minimum Installed Height (in.)**	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
				factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
				215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PRF-1	1	2.75	5.75	545	427	383	340	299	258	219	182	146	1.9
PRF-2	2	5.75	8.75	867	680	610	542	476	411	349	290	233	3.5
PRF-3	3	8.625	11.625	1,118	878	787	699	613	530	451	374	300	5.1
PRF-4	4	11.50	14.50	1,351	1,060	951	844	741	641	544	452	363	7.1
PRF-5	5	14.375	17.375	1,718	1,348	1,209	1,073	942	815	692	574	461	9.9
PRF-6	6	17.25	20.25	1,981	1,555	1,394	1,238	1,087	940	798	662	532	11.7
PRF-7	7	20.25	23.25	2,145	1,762	1,580	1,403	1,232	1,065	905	751	603	13.8
PRF-8	8	23.125	26.125	2,387	1,873	1,680	1,491	1,309	1,132	962	798	641	16.4
PRF-9	9	26.125	29.125	2,527	1,983	1,779	1,579	1,386	1,199	1,018	845	679	17.5
PRF-10	10	29.00	32.00	2,660	2,088	1,872	1,662	1,459	1,262	1,072	889	715	18.6

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500) Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PR2



NOTE: ALL PR2 UNITS PROVIDED WITH SUPPLY CONNECTION ON FRONT HEADER AND RETURN CONNECTION ON REAR HEADER. UNIT SHOWN (AT LEFT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 17 FOR CONNECTION LOCATIONS AND SIZES OFFERED.

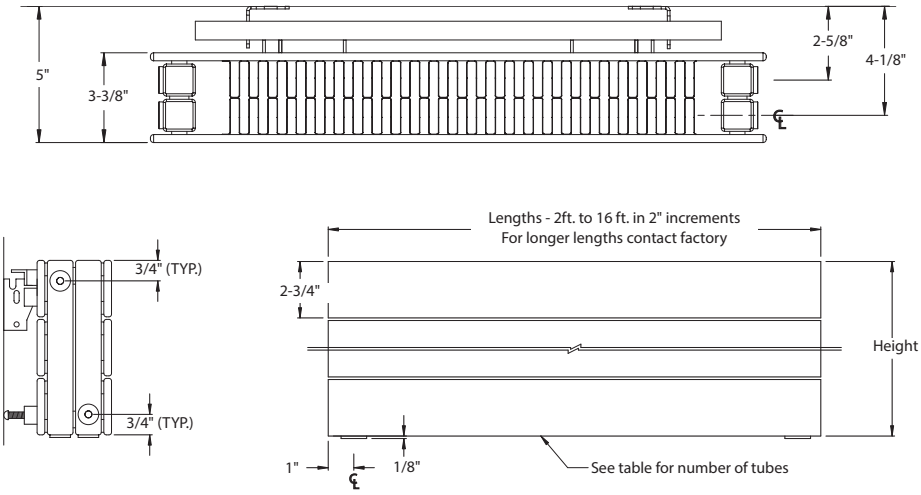
Guaranteed Ratings

IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Height (in.)	**Minimum Installed Height (in.)**	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
				factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
				215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PR2-1	2	2.75	5.75	480	374	331	293	254	216	192	158	125	2.7
PR2-2	4	5.75	8.75	862	672	595	526	457	388	345	284	224	5.2
PR2-3	6	8.625	11.625	1,274	994	879	777	675	573	510	420	331	7.9
PR2-4	8	11.50	14.50	1,680	1,310	1,159	1,025	890	756	672	554	437	10.7
PR2-5	10	14.375	17.375	2,096	1,635	1,446	1,279	1,111	943	838	692	545	12.9
PR2-6	12	17.25	20.25	2,524	1,969	1,742	1,540	1,338	1,136	1,010	833	656	15
PR2-7	14	20.25	23.25	2,960	2,309	2,042	1,806	1,569	1,332	1,184	977	770	17.9
PR2-8	16	23.125	26.125	3,392	2,646	2,340	2,069	1,798	1,526	1,357	1,119	882	21.5
PR2-9	18	26.125	29.125	3,820	2,980	2,636	2,330	2,025	1,719	1,528	1,261	993	23.0
PR2-10	20	29.00	32.00	4,260	3,323	2,939	2,599	2,258	1,917	1,704	1,406	1,108	24.7

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500)
Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PR2F



NOTE: ALL PR2F UNITS PROVIDED WITH SUPPLY CONNECTION ON FRONT HEADER AND RETURN CONNECTION ON REAR HEADER. UNIT SHOWN (AT RIGHT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 17 FOR CONNECTION LOCATIONS AND SIZES OFFERED.

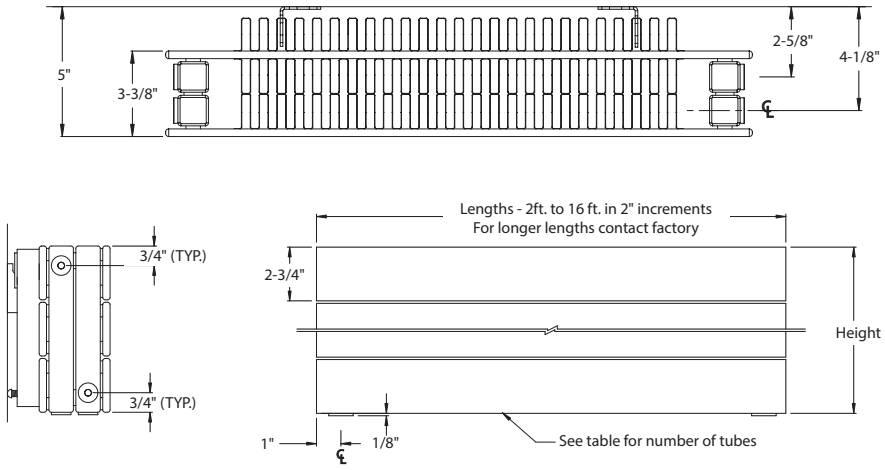
Guaranteed Ratings

IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Height (in.)	**Minimum Installed Height (in.)**	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
				factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
				215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PR2F-1	2	2.75	5.75	979	769	689	612	537	465	395	327	263	3.6
PR2F-2	4	5.75	8.75	1,589	1,247	1,118	993	872	754	640	531	427	6.9
PR2F-3	6	8.625	11.625	2,019	1,584	1,421	1,261	1,108	958	813	675	542	10.1
PR2F-4	8	11.50	14.50	2,417	1,897	1,701	1,510	1,326	1,147	974	808	649	13.9
PR2F-5	10	14.375	17.375	3,094	2,428	2,177	1,933	1,697	1,457	1,246	1,034	831	16.8
PR2F-6	12	17.25	20.25	3,470	2,723	2,443	2,168	1,904	1,646	1,398	1,160	932	20.0
PR2F-7	14	20.25	23.25	3,846	3,018	2,707	2,403	2,110	1,824	1,549	1,286	1,033	23.5
PR2F-8	16	23.125	26.125	4,211	3,304	2,963	2,631	2,310	1,997	1,696	1,408	1,131	27.6
PR2F-9	18	26.125	29.125	4,432	3,478	3,119	2,769	2,431	2,102	1,785	1,481	1,190	29.9
PR2F-10	20	29.00	32.00	4,644	3,645	3,269	2,901	2,548	2,203	1,871	1,552	1,247	32.1

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500) Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PR3F



NOTE: ALL PR3F UNITS PROVIDED WITH SUPPLY CONNECTION ON FRONT HEADER AND RETURN CONNECTION ON REAR HEADER. UNIT SHOWN (AT LEFT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 17 FOR CONNECTION LOCATIONS AND SIZES OFFERED.

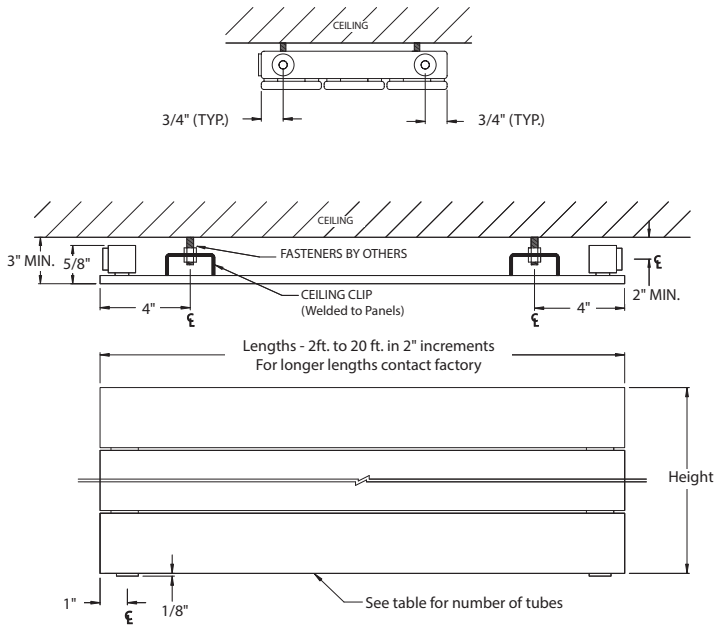
Guaranteed Ratings

IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Height (in.)	**Minimum Installed Height (in.)**	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
				factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
				215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PR3F-1	2	2.75	5.75	1,299	1,020	914	812	713	616	523	434	349	4.3
PR3F-2	4	5.75	8.75	2,014	1,581	1,418	1,258	1,105	955	811	673	541	8.0
PR3F-3	6	8.625	11.625	2,572	2,018	1,810	1,607	1,411	1,220	1,036	860	691	11.7
PR3F-4	8	11.50	14.50	3,082	2,418	2,169	1,925	1,690	1,462	1,241	1,030	828	16.4
PR3F-5	10	14.375	17.375	3,788	2,973	2,666	2,367	2,078	1,797	1,526	1,266	1,017	19.6
PR3F-6	12	17.25	20.25	4,263	3,345	3,000	2,663	2,338	2,022	1,717	1,425	1,145	23.2
PR3F-7	14	20.25	23.25	4,738	3,718	3,335	2,960	2,599	2,247	1,909	1,584	1,273	27.4
PR3F-8	16	23.125	26.125	5,200	4,080	3,660	3,248	2,852	2,466	2,095	1,738	1,396	32.5
PR3F-9	18	26.125	29.125	5,451	4,278	3,836	3,405	2,990	2,585	2,196	1,822	1,464	34.7
PR3F-10	20	29.00	32.00	5,691	4,466	4,005	3,556	3,122	2,699	2,293	1,902	1,528	36.9

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500)
Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PRC



NOTE: UNIT SHOWN (AT RIGHT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 17 FOR CONNECTION LOCATIONS AND SIZES OFFERED. NOT ALL HEIGHTS AVAILABLE WITH ALL LENGTHS.

Guaranteed Ratings

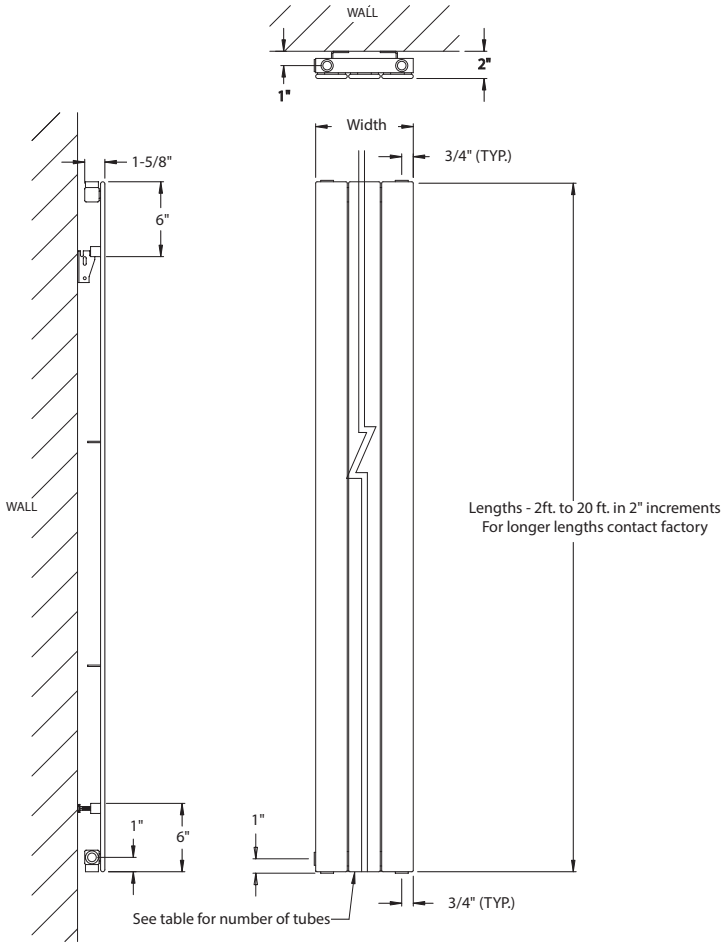
IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Height (in.)	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
			factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
			215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PRC-1	1	2.75	144	113	101	90	79	68	58	48	39	1.3
PRC-2	2	5.75	271	213	191	169	149	129	109	91	73	2.4
PRC-3	3	8.625	401	315	282	250	220	190	162	134	108	3.5
PRC-4	4	11.50	528	415	372	330	290	251	213	177	142	4.6
PRC-5	5	14.375	659	517	464	412	362	313	266	220	177	5.7
PRC-6	6	17.25	795	624	559	496	436	377	320	266	213	6.8
PRC-7	7	20.25	932	731	656	582	511	442	375	311	250	8.0
PRC-8	8	23.125	1,067	837	751	667	585	506	430	357	287	9.1
PRC-9	9	26.125	1,203	944	847	752	660	571	485	402	323	10.2
PRC-10	10	29.00	1,340	1,052	943	837	735	636	540	448	360	11.3

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500) Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PRV

NOTE: UNIT SHOWN (AT RIGHT) WITH 1/2" NPT SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 14 FOR CONNECTION LOCATIONS AND SIZES OFFERED.



Guaranteed Ratings

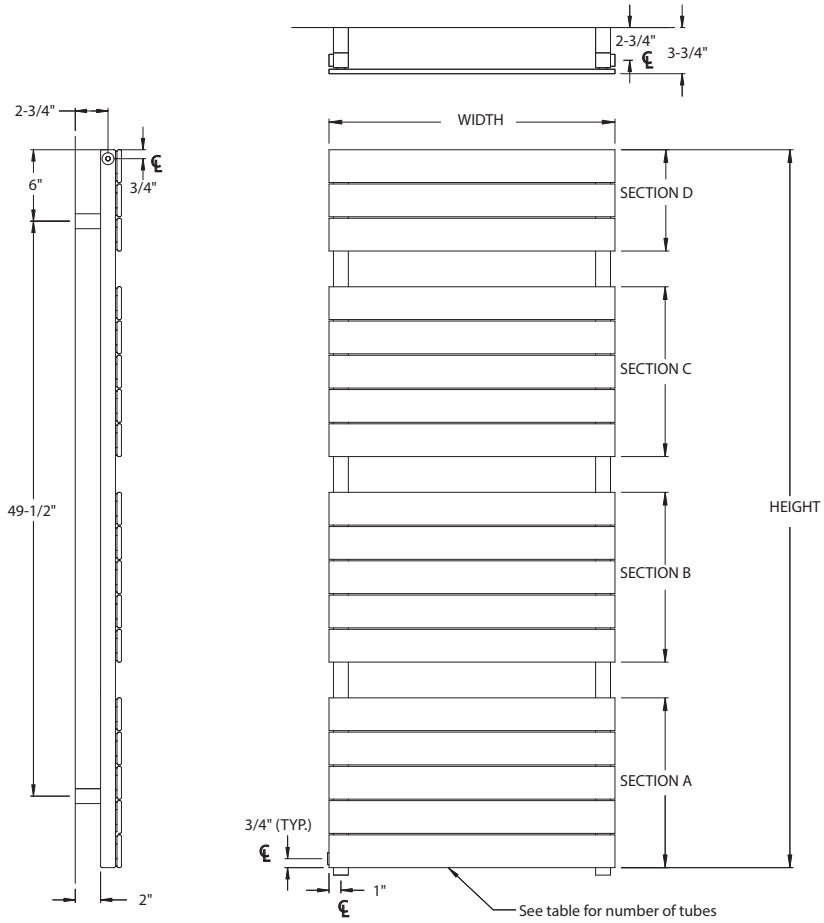
IN BTU/HR PER ACTIVE PANEL LINEAL FOOT AT ENTERING AIR TEMPERATURE OF 65 °F

Model	# of Tubes	Width (in.)	Steam Capacity	Hot Water Heat Average Water Temperature								Dry Panel Weight (lbs/ft)
			factor of 1.00	factor of 0.78	factor of 0.69	factor of 0.61	factor of 0.53	factor of 0.45	factor of 0.40	factor of 0.33	factor of 0.26	
			215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	140 °F	130 °F	120 °F	
PRV-1	1	2.75	200	157	141	125	110	95	80	67	54	1.3
PRV-2	2	5.75	399	313	281	249	219	189	161	133	107	2.4
PRV-3	3	8.625	599	470	421	374	329	284	241	200	161	3.5
PRV-4	4	11.50	798	627	562	499	438	379	322	267	214	4.6
PRV-5	5	14.375	998	783	702	624	548	473	402	334	268	5.7
PRV-6	6	17.25	1,198	940	843	748	657	568	483	400	322	6.8
PRV-7	7	20.25	1,397	1,097	983	873	767	663	563	467	375	8.0
PRV-8	8	23.125	1,597	1,253	1,124	998	876	757	643	534	429	9.1
PRV-9	9	26.125	1,796	1,410	1,264	1,122	986	852	724	601	483	10.2
PRV-10	10	29.00	1,996	1,566	1,405	1,247	1,095	947	808	667	536	11.3

Above capacities are based on a 20 °F temperature drop. Flow rate may be found by applying the equation GPM=BTU / (Temp Drop x 500)
Rittling Radiators not recommended for steam applications. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Add 10% to dry panel weight for Medium Pressure Tubing and 15% to dry panel weight for High Pressure Tubing. Safety precautions should be considered when determining radiator location and operating temperature.

Model PRTW

NOTE: UNIT SHOWN (AT RIGHT) WITH SIDE AND BOTTOM CONNECTIONS FOR DIMENSIONAL PURPOSES ONLY. REFER TO PIPE CONNECTION SHEET ON PAGE 14 FOR CONNECTION LOCATIONS AND SIZES OFFERED.



Guaranteed Ratings

IN BTU/HR PER ACTIVE PRTW UNIT AT ENTERING AIR TEMPERATURE OF 65 °F

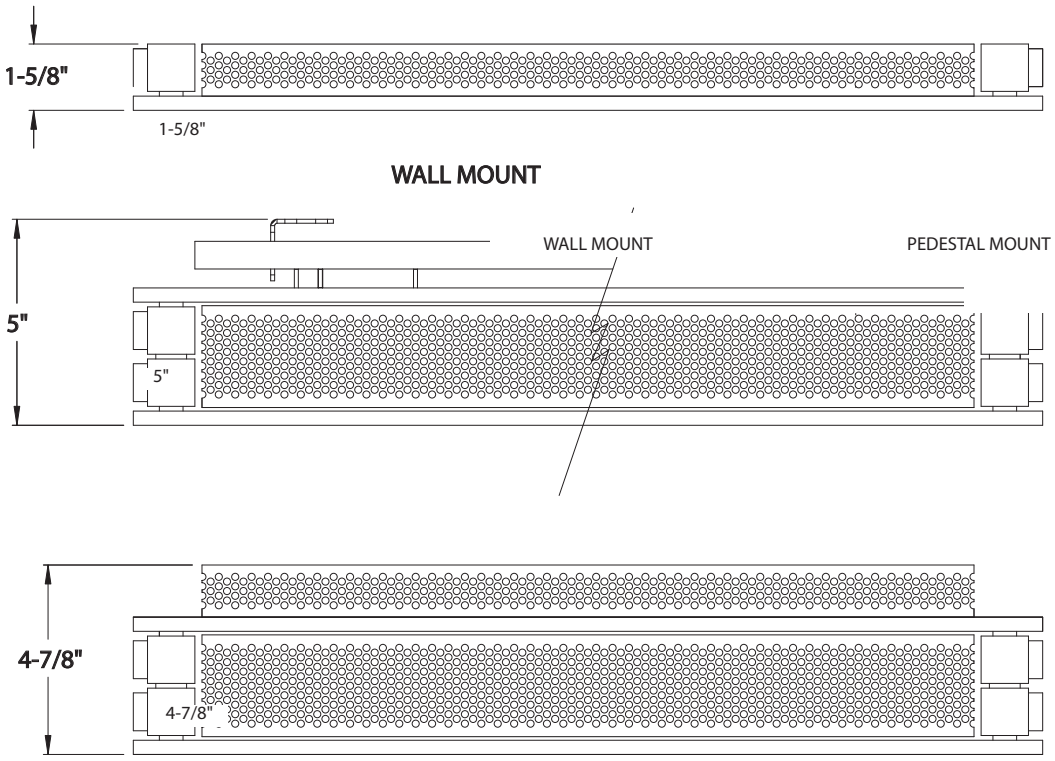
Hydronic Model	Width (In)	Height (In)	Number Of Panels A/B/C/D	Steam Heat	Hot Water Heat Listed Awt + 65 °F (18° C) Eat					Panel Weight Unit (Lbs)
				factor 1.0	0.78	0.70	0.62	0.54	0.45	
				215 °F	190 °F	180 °F	170 °F	160 °F	150 °F	
PRTW2426	24	26.1	5/3/0/0	3360	2621	2352	2083	1814	1512	37.0
PRTW2434	24	34.8	5/3/2/0	4080	3182	2856	2530	2203	1836	46.0
PRTW2443	24	43.6	5/5/3/0	5040	3931	3528	3125	2722	2268	56.8
PRTW2460	24	61.1	5/5/5/3	7440	5803	5208	4613	4018	3348	78.0
PRTW3026	30	26.1	5/3/0/0	4200	3276	2940	2604	2268	1890	46.3
PRTW3034	30	34.8	5/3/2/0	5110	3986	3577	3168	2759	2300	57.5
PRTW3043	30	43.6	5/5/3/0	6300	4914	4410	3906	3402	2835	71.0
PRTW3060	30	61.1	5/5/5/3	9300	7254	6510	5766	5022	4185	97.5
PRTW3626	36	26.1	5/3/0/0	5040	3931	3528	3125	2722	2268	55.5
PRTW3634	36	34.8	5/3/2/0	6120	4774	4284	3794	3305	2754	69.0
PRTW3643	36	43.6	5/5/3/0	7560	5897	5292	4687	4082	3402	85.2
PRTW3660	36	61.1	5/5/5/3	11160	8705	7812	6919	6026	5022	117.0

Use of Table: Multiply BTU shown for steam heat (at 215 °F) in rating table by appropriate correction factor given above to obtain corrected hot-water-heat rating. Consult factory for other operating temperatures and pressure drops. See Table A on page 18 for Hot Water Correction Factors at non-standard entering air temperatures. Rittling Radiators not recommended for steam applications.

PRTW General Specifications

- Different sizes allow for variation in BTU/hr outputs for low-to-high drying or heating requirements.
- Standard configurations (individually piped) have a pressure drop of less than 0.5 feet of head per radiator.
- Radiator expansion does not exceed 0.016 inch per linear foot at 215 °F.
- Series piping connections can be made from any side and are adaptable to existing installations. Towel Warmers work with traditional hydronic systems, effectively heating at water temperatures from 100 °F to 240 °F. (38° C to 116 °C). Compatible with other hot water units currently in use.

Optional Welded Perforated Grille

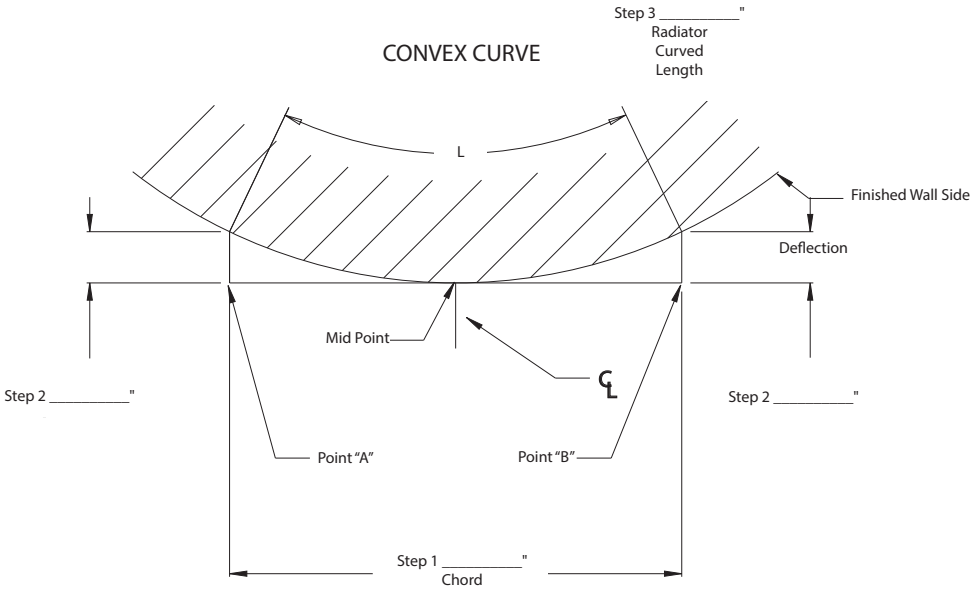


The 18-GA grille with 3/16" diameter holes on 1/4" staggered centerlines provides a pencil proof flat top to any standard panel. This allows for a more continuous look and prevents unwanted buildup between the fins. Grille is painted and finished with polyester epoxy powder to match the radiator. Adding the perforated grille may reduce output of some models.

Curve Layout

FIELD MEASURING PROCEDURE FOR FINDING A FINISHED WALL RADIUS
MODELS PR (up to 6 tubes) & PRF (up to 4 tubes) ONLY

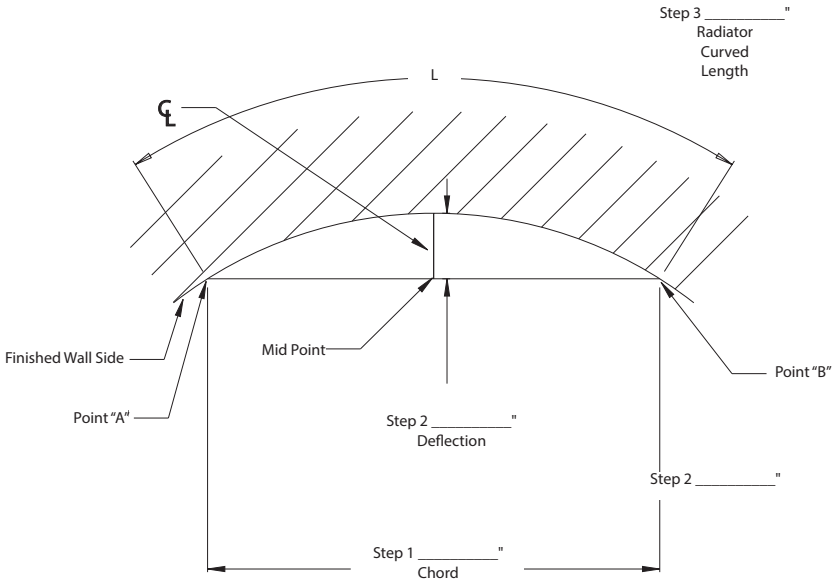
CONVEX CURVE



CONVEX CURVE

1. Draw a straight line from point "A" to point "B" having the mid-point touching the wall. Measure the line length and fill in Step 1.
2. Draw a perpendicular line from the A-B line end points to the wall. Measure the line lengths and fill in Step 2.

CONCAVE CURVE



CONCAVE CURVE

1. Draw a straight line from point "A" to point "B" touching the wall. Measure the line length and fill in Step 1.
2. Find the mid-point on the A-B line and draw a line perpendicular to the wall. Measure the line length and fill in Step 2.

GENERAL NOTES

1. Measurements are to the "Finished" side of the wall.
2. Wall contour to be of a "Continuous Uninterrupted Radius".
3. Construction lines are to be perpendicular to each other.
4. PR2, PR2F, PR3F Models not available.
5. Contact factory for heights and lengths available.

Installation and Operation Tips

Rittling Radiators are manufactured in the USA of cold rolled low carbon steel and should be used only in closed hydronic systems to assure no corrosion of any system components.

Fully venting the panels of system air is critical. This will allow adequate water flow through the panels for proper operation. Rittling Radiators require less flow rate than other hydronic heating products. If flow noise is apparent, balance the system until the noise is reduced.

Radiators should each be ventilated, with the system pressurized but in a static state (pumps off). Venting may need to be done periodically to assure a closed system.

DO NOT OVER-PRESSURIZE PANELS:
Most radiators are standard pressure construction. Standard pressure radiators should be tested with no more than 50 psi. Radiators expand a maximum of 0.016 inch per linear foot of length if heated to 215 °F. Piping attached to the radiator must provide the necessary expansion compensation.

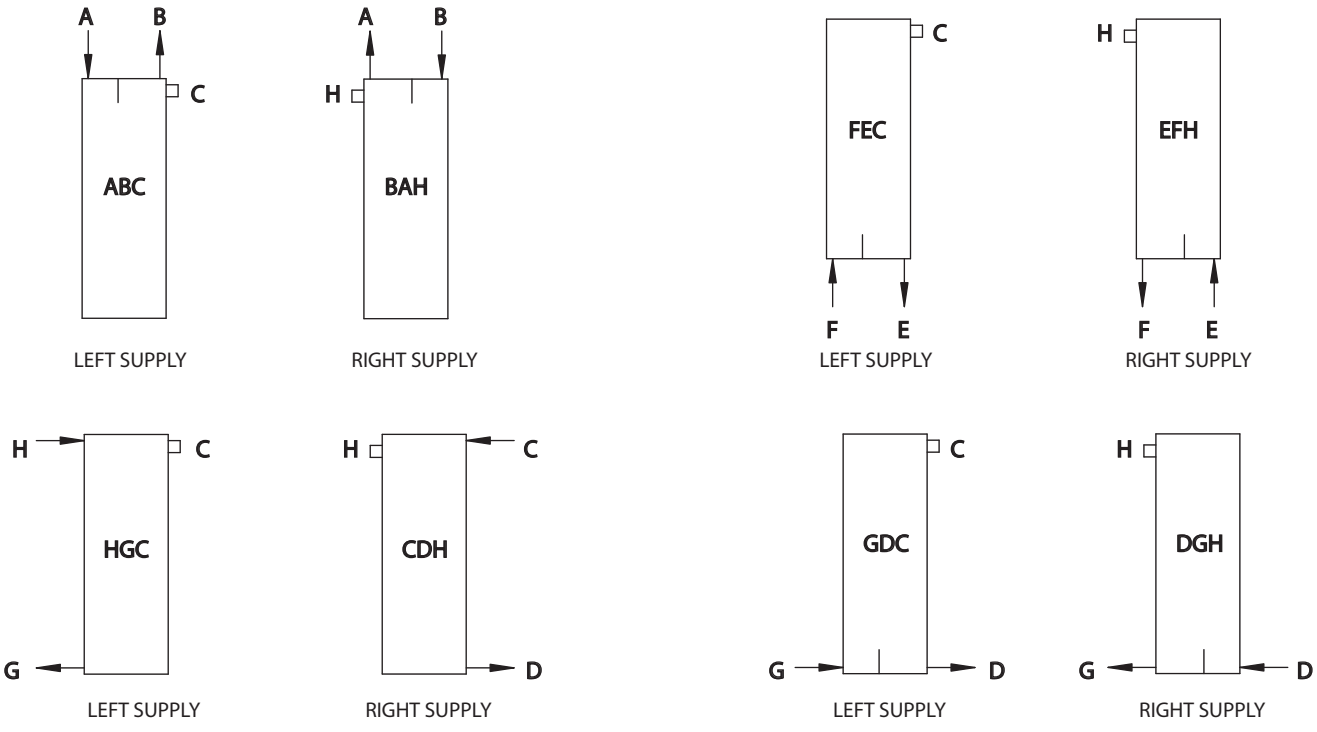
Expansion compensation can be achieved by using flexible piping or elbowed piping. These are two simple ways to provide the 1/8 inch to 1/2 inch (typical) of flexibility required in expansion situations (usually series piping).

Hydronic system maintenance should include routine checks for piping leaks (usually indicated by frequent makeup water), and a yearly diagnosis of the system water pH to evaluate its corrosive potential.

Internal radiator maintenance depends entirely on the system water makeup and proper venting. Hydronic system additives are available to passivate and protect against freezing. These additives will not significantly reduce the output of Rittling Radiators.

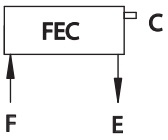
External radiator maintenance consists of keeping the surfaces clean, and any paint nicks or deep scratches painted with touch-up to prevent any surface rust.

PRV PIPING OPTIONS

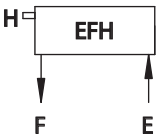


Installation and Operation Tips

PR, PRF, PRC PIPING OPTIONS



LEFT SUPPLY



RIGHT SUPPLY

LEFT SUPPLY

RIGHT SUPPLY

LEFT SUPPLY

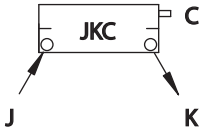
RIGHT SUPPLY

LEFT SUPPLY

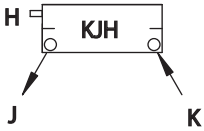
RIGHT SUPPLY

LEFT SUPPLY

RIGHT SUPPLY

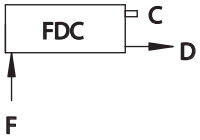


LEFT SUPPLY

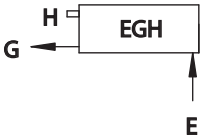


RIGHT SUPPLY

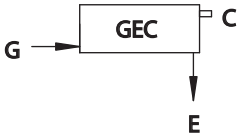
J and K Connections are rear facing



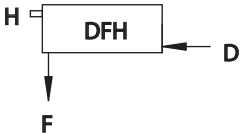
LEFT SUPPLY



RIGHT SUPPLY

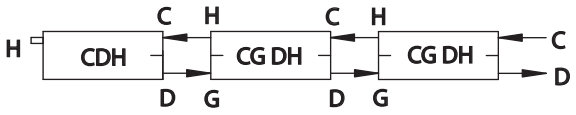


LEFT SUPPLY



RIGHT SUPPLY

Opposite End Series



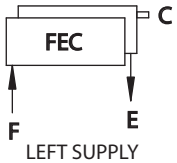
Same End Series

Notes:
- Vent on each panel
- Can eliminate costly risers
- Lower PD than same end series
- Up to 7 radiators (100 ft) in series Opposite End
- Expansion compensation piping to be provided by others

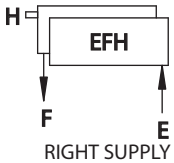
Notes:
- Same AWT over the entire Same End Series
- Can eliminate costly risers
- Higher PD than same end series
- No more than 3 radiators in series Same End
- Expansion compensation piping to be provided by others

Installation and Operation Tips

PR2, PR2F, PR3F PIPING OPTIONS



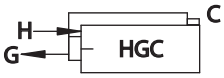
LEFT SUPPLY



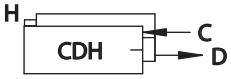
RIGHT SUPPLY

LEFT SUPPLY

RIGHT SUPPLY



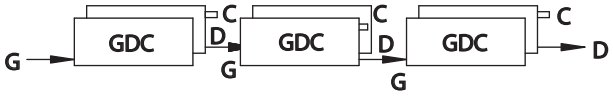
LEFT SUPPLY



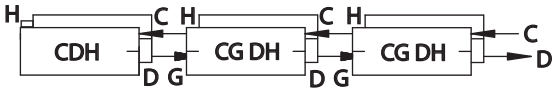
RIGHT SUPPLY

LEFT SUPPLY

RIGHT SUPPLY



Opposite End Series



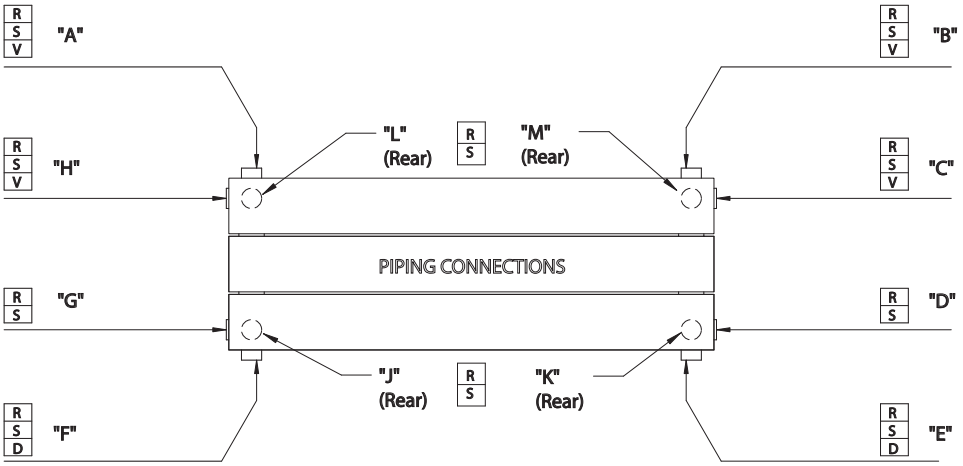
Same End Series

Notes:
- Vent on each panel
- Can eliminate costly risers
- Lower PD than same end series
- Up to 7 radiators (100 ft) in series Opposite End
- Expansion compensation piping to be provided by others

Notes:
- Same AWT over the entire Same End Series
- Can eliminate costly risers
- Higher PD than same end series
- No more than 3 radiators in series Same End
- Expansion compensation piping to be provided by others

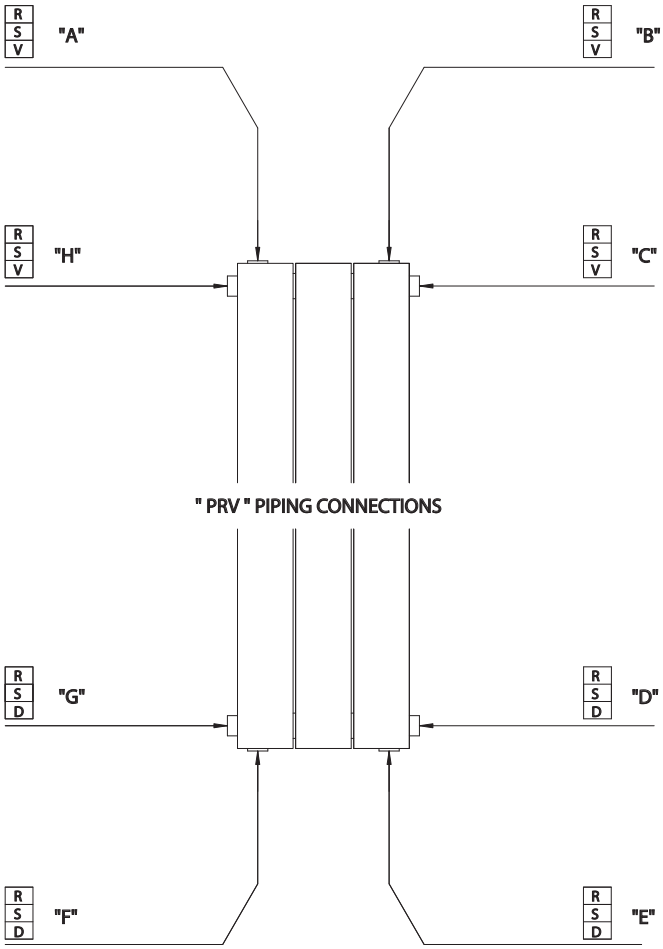
Piping Connections

MODEL PR, PRF, PR2, PR2F, PR3F, PRC, PRTW PIPING CONNECTIONS



NOTE: ALL PR2, PR2F AND PR3F UNITS PROVIDED WITH SUPPLY CONNECTION ON FRONT HEADER AND RETURN CONNECTION ON REAR HEADER.

MODEL PRV PIPING CONNECTIONS



1/2" NPT AND 3/4" NPT CONNECTIONS
S = SUPPLY
R = RETURN
V = VENT 1/8" NPT
D = DRAIN (OPTIONAL)

"A" = LEFT TOP
"B" = RIGHT TOP
"C" = RIGHT SIDE TOP
"D" = RIGHT SIDE BOTTOM
"E" = RIGHT BOTTOM
"F" = LEFT BOTTOM
"G" = LEFT SIDE BOTTOM
"H" = LEFT SIDE TOP
"J" = LEFT (REAR) BOTTOM
"K" = RIGHT (REAR) BOTTOM
"L" = LEFT (REAR) TOP
"M" = RIGHT (REAR) TOP

General Ratings Data

TABLE A

HOT WATER HEAT CORRECTION FACTORS FOR NONSTANDARD ENTERING AIR TEMPERATURES

Entering Air Temperature (°F)	Average Water Temperature (°F)															
	240	230	220	215	210	200	190	180	170	160	150	140	130	120	110	100
45	1.37	1.31	1.22	1.17	1.12	1.04	0.95	0.87	0.79	0.70	0.63	0.55	0.47	0.40	0.33	0.27
50	1.35	1.27	1.17	1.12	1.09	1.00	0.91	0.83	0.74	0.66	0.59	0.51	0.44	0.37	0.30	0.24
55	1.30	1.22	1.12	1.09	1.04	0.95	0.87	0.79	0.70	0.63	0.55	0.47	0.40	0.33	0.27	0.21
60	1.27	1.17	1.09	1.04	1.00	0.91	0.83	0.74	0.66	0.59	0.51	0.44	0.37	0.30	0.24	0.18
65	1.22	1.12	1.04	1.00	0.95	0.87	0.79	0.70	0.63	0.55	0.47	0.40	0.33	0.27	0.21	0.15
70	1.17	1.09	1.00	0.95	0.91	0.83	0.74	0.66	0.59	0.51	0.44	0.37	0.30	0.24	0.18	0.12
75	1.12	1.04	0.95	0.91	0.87	0.79	0.70	0.63	0.55	0.47	0.40	0.33	0.27	0.21	0.15	0.10
80	1.09	1.00	0.91	0.87	0.83	0.74	0.66	0.59	0.51	0.44	0.37	0.30	0.24	0.18	0.12	0.07
85	1.04	0.95	0.87	0.83	0.79	0.70	0.63	0.55	0.47	0.40	0.33	0.27	0.21	0.15	0.10	0.05
90	1.00	0.91	0.83	0.79	0.74	0.66	0.59	0.51	0.44	0.37	0.30	0.24	0.18	0.12	0.07	0.03
95	0.95	0.87	0.79	0.74	0.70	0.63	0.55	0.47	0.40	0.33	0.27	0.21	0.15	0.10	0.05	0.01

Multiply BTU shown for steam heat (215 °F) in rating table by appropriate correction factor to give corrected hot water rating.

TABLE B

PRESSURE DROP ADD FOR RITTLING RADIATOR PIPE CONNECTIONS

PR & PRF

GPM	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00
1/2"	0.01	0.03	0.04	0.09	0.18	0.25	0.35	0.44	0.56	0.63	0.80	1.00	1.20	1.40	1.60

PRC, PRV, PR2, PR2F & PR3F

GPM	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00
1/2"	0.01	0.01	0.03	0.04	0.06	0.08	0.10	0.15	0.18	0.20	0.25	0.28	0.33	0.37	0.42

NOTES:
The connection pressure drop for 3/4" NPT is the same as 1/2" NPT.

To calculate total pressure drop for each panel, take the pressure drop that corresponds to the Panel Pressure Rating and GPM and add for each connection. Add this pressure drop to the pressure drop for a specific panel model shown on pages 19-23.

Example: Using chart on page 20 for same end connections, standard pressure PR-2 with (4) 3/4" connections and 3.5 GPM - Unit Pressure drop is 2.32 ft. plus 4 x 0.44 ft. for a total of 4.08 ft of head.

All connection pressure drops are the same for standard, medium and high pressure tubes.

Pressure Drop Table - Model PRV

Pipe Connections at Same Ends of Panel

PRESSURE DROP IS FOR COMPLETE UNIT AND MEASURED IN FEET OF HEAD.

GPM	PRESSURE RATINGS														
	1 Tube Wide[1]			2 Tubes Wide[2]			3 Tubes Wide[3]			4 Tubes Wide[4]			5 Tubes Wide[5]		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.21	0.46	0.82	0.05	0.12	0.22	0.02	0.06	0.10	0.01	0.03	0.06	0.01	0.02	0.04
0.75	0.45	1.00	1.79	0.12	0.26	0.47	0.05	0.12	0.22	0.03	0.07	0.12	0.02	0.04	0.08
1.00	0.79	1.75	3.13	0.21	0.46	0.82	0.09	0.21	0.38	0.05	0.12	0.22	0.04	0.09	0.16
1.50	1.72	3.83	6.84	0.45	1.00	1.79	0.21	0.46	0.82	0.12	0.26	0.47	0.08	0.18	0.32
2.00	3.00	6.67	11.91	0.79	1.75	3.13	0.36	0.80	1.43	0.21	0.46	0.82	0.13	0.29	0.52
2.50	4.61	10.26	18.33	1.21	2.69	4.81	0.55	1.23	2.20	0.32	0.71	1.26	0.21	0.47	0.83
3.00	6.56	14.59	26.06	1.72	3.83	6.84	0.79	1.75	3.13	0.45	1.00	1.79	0.29	0.64	1.15
3.50	8.83	19.65	35.09	2.32	5.16	9.21	1.06	2.36	4.21	0.61	1.35	2.42	0.40	0.89	1.59
4.00	11.42	25.42	45.40	3.00	6.67	11.91	1.37	3.05	5.45	0.79	1.75	3.13	0.51	1.13	2.03
4.50	14.34	31.91	56.99	3.76	8.37	14.96	1.72	3.83	6.84	0.99	2.20	3.92	0.64	1.42	2.54
5.00	17.57	39.10	69.84	4.61	10.26	18.33	2.11	4.69	8.38	1.21	2.69	4.81	0.79	1.76	3.14
5.50	21.12	47.00	83.95	5.54	12.33	22.03	2.53	5.64	10.07	1.45	3.24	5.78	0.95	2.11	3.78
6.00	24.98	55.60	99.30	6.56	14.59	26.06	3.00	6.67	11.91	1.72	3.83	6.84	1.12	2.49	4.45
6.50	29.15	64.88	115.88	7.65	17.03	30.41	3.50	7.79	13.91	2.01	4.47	7.98	1.31	2.91	5.21
7.00	33.64	74.86	133.70	8.83	19.65	35.09	4.04	8.98	16.04	2.32	5.16	9.21	1.51	3.35	6.00

[1] Model PRV-2 - 1 supply, 1 return tube.
Model PRV-3 - 1 supply, 2 return tubes.

[2] Model PRV-4 - 2 supply, 2 return tubes.
Model PRV-5 - 2 supply, 3 return tubes.

[3] Model PRV-6 - 3 supply, 3 return tubes.
Model PRV-7 - 3 supply, 4 return tubes.

[4] Model PRV-8 - 4 supply, 4 return tubes.
Model PRV-9 - 4 supply, 5 return tubes.

[5] Model PRV-10 - 5 supply, 5 return tubes.

See Pressure Drop Add in Table B, page 18.

Pressure Drop Table - Models PR, PRF, PRC

Pipe Connections at Same Ends of Panel

PRESSURE DROP IS FOR COMPLETE UNIT AND MEASURED IN FEET OF HEAD.

GPM	PRESSURE RATINGS														
	1 Tube High[1]			2 Tubes High[2]			3 Tubes High[3]			4 Tubes High[4]			5 Tubes High[5]		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.21	0.46	0.82	0.05	0.12	0.22	0.02	0.06	0.10	0.01	0.03	0.06	0.01	0.02	0.04
0.75	0.45	1.00	1.79	0.12	0.26	0.47	0.05	0.12	0.22	0.03	0.07	0.12	0.02	0.04	0.08
1.00	0.79	1.75	3.13	0.21	0.46	0.82	0.09	0.21	0.38	0.05	0.12	0.22	0.04	0.08	0.14
1.50	1.72	3.83	6.84	0.45	1.00	1.79	0.21	0.46	0.82	0.12	0.26	0.47	0.08	0.17	0.31
2.00	3.00	6.67	11.91	0.79	1.75	3.13	0.36	0.80	1.43	0.21	0.46	0.82	0.13	0.30	0.53
2.50	4.61	10.26	18.33	1.21	2.69	4.81	0.55	1.23	2.20	0.32	0.71	1.26	0.21	0.46	0.82
3.00	6.56	14.59	26.06	1.72	3.83	6.84	0.79	1.75	3.13	0.45	1.00	1.79	0.29	0.65	1.17
3.50	8.83	19.65	35.09	2.32	5.16	9.21	1.06	2.36	4.21	0.61	1.35	2.42	0.40	0.88	1.57
4.00	11.42	25.42	45.40	3.00	6.67	11.91	1.37	3.05	5.45	0.79	1.75	3.13	0.51	1.14	2.03
4.50	14.34	31.91	56.99	3.76	8.37	14.96	1.72	3.83	6.84	0.99	2.20	3.92	0.64	1.43	2.55
5.00	17.57	39.10	69.84	4.61	10.26	18.33	2.11	4.69	8.38	1.21	2.69	4.81	0.79	1.75	3.13
5.50	21.12	47.00	83.95	5.54	12.33	22.03	2.53	5.64	10.07	1.45	3.24	5.78	0.95	2.10	3.76
6.00	24.98	55.60	99.30	6.56	14.59	26.06	3.00	6.67	11.91	1.72	3.83	6.84	1.12	2.49	4.45
6.50	29.15	64.88	115.88	7.65	17.03	30.41	3.50	7.79	13.91	2.01	4.47	7.98	1.31	2.90	5.19
7.00	33.64	74.86	133.70	8.83	19.65	35.09	4.04	8.98	16.04	2.32	5.16	9.21	1.51	3.35	5.99

[1] Models PR-2, PRF-2, PRC-2 - 1 supply, 1 return tube.
Models PR-3, PRF-3, PRC-3 - 1 supply, 2 return tubes.

[2] Models PR-4, PRF-4, PRC-4 - 2 supply, 2 return tubes.
Models PR-5, PRF-5, PRC-5 - 2 supply, 3 return tubes.

[3] Models PR-6, PRF-6, PRC-6 - 3 supply, 3 return tubes.
Models PR-7, PRF-7, PRC-7 - 3 supply, 4 return tubes.

[4] Models PR-8, PRF-8, PRC-8 - 4 supply, 4 return tubes.
Models PR-9, PRF-9, PRC-9 - 4 supply, 5 return tubes.

[5] Models PR-10, PRF-10, PRC-10 - 5 supply, 5 return tubes.

See Pressure Drop Add in Table B, page 18.

Pressure Drop Table - Models PR, PRF, PRV, PRC

Pipe Connections at Opposite Ends of Panel

PRESSURE DROP IS FOR COMPLETE UNIT AND MEASURED IN FEET OF HEAD.

GPM	PRESSURE RATINGS														
	1 Tube Wide/High			2 Tubes Wide/High			3 Tubes Wide/High			4 Tubes Wide/High			5 Tubes Wide/High		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.21	0.46	0.82	0.05	0.12	0.22	0.02	0.06	0.10	0.01	0.03	0.06	0.01	0.02	0.04
0.75	0.45	1.00	1.79	0.12	0.26	0.47	0.05	0.12	0.22	0.03	0.07	0.12	0.02	0.04	0.08
1.00	0.79	1.75	3.13	0.21	0.46	0.82	0.09	0.21	0.38	0.05	0.12	0.22	0.04	0.08	0.14
1.50	1.72	3.83	6.84	0.45	1.00	1.79	0.21	0.46	0.82	0.12	0.26	0.47	0.08	0.17	0.31
2.00	3.00	6.67	11.91	0.79	1.75	3.13	0.36	0.80	1.43	0.21	0.46	0.82	0.13	0.30	0.53
2.50	4.61	10.26	18.33	1.21	2.69	4.81	0.55	1.23	2.20	0.32	0.71	1.26	0.21	0.46	0.82
3.00	6.56	14.59	26.06	1.72	3.83	6.84	0.79	1.75	3.13	0.45	1.00	1.79	0.29	0.65	1.17
3.50	8.83	19.65	35.09	2.32	5.16	9.21	1.06	2.36	4.21	0.61	1.35	2.42	0.40	0.88	1.57
4.00	11.42	25.42	45.40	3.00	6.67	11.91	1.37	3.05	5.45	0.79	1.75	3.13	0.51	1.14	2.03
4.50	14.34	31.91	56.99	3.76	8.37	14.96	1.72	3.83	6.84	0.99	2.20	3.92	0.64	1.43	2.55
5.00	17.57	39.10	69.84	4.61	10.26	18.33	2.11	4.69	8.38	1.21	2.69	4.81	0.79	1.75	3.13
5.50	21.12	47.00	83.95	5.54	12.33	22.03	2.53	5.64	10.07	1.45	3.24	5.78	0.95	2.10	3.76
6.00	24.98	55.60	99.30	6.56	14.59	26.06	3.00	6.67	11.91	1.72	3.83	6.84	1.12	2.49	4.45
6.50	29.15	64.88	115.88	7.65	17.03	30.41	3.50	7.79	13.91	2.01	4.47	7.98	1.31	2.90	5.19
7.00	33.64	74.86	133.70	8.83	19.65	35.09	4.04	8.98	16.04	2.32	5.16	9.21	1.51	3.35	5.99

GPM	PRESSURE RATINGS														
	6 Tubes Wide/High			7 Tubes Wide/High			8 Tubes Wide/High			9 Tubes Wide/High			10 Tubes Wide/High		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.01	0.01	0.03	0.00	0.01	0.02	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01
0.75	0.01	0.03	0.06	0.01	0.02	0.04	0.01	0.02	0.03	0.01	0.01	0.03	0.01	0.01	0.02
1.00	0.02	0.06	0.10	0.02	0.04	0.07	0.01	0.03	0.06	0.01	0.03	0.05	0.01	0.02	0.04
1.50	0.05	0.12	0.22	0.04	0.09	0.16	0.03	0.07	0.12	0.02	0.06	0.10	0.02	0.04	0.08
2.00	0.09	0.21	0.38	0.07	0.16	0.28	0.05	0.12	0.22	0.04	0.10	0.17	0.04	0.08	0.14
2.50	0.15	0.32	0.58	0.11	0.24	0.43	0.08	0.19	0.33	0.07	0.15	0.26	0.05	0.12	0.22
3.00	0.21	0.46	0.82	0.15	0.34	0.61	0.12	0.26	0.47	0.09	0.21	0.38	0.08	0.17	0.31
3.50	0.28	0.62	1.10	0.21	0.46	0.82	0.16	0.36	0.63	0.13	0.28	0.51	0.10	0.23	0.41
4.00	0.36	0.80	1.43	0.27	0.59	1.06	0.21	0.46	0.82	0.16	0.37	0.65	0.13	0.30	0.53
4.50	0.45	1.00	1.79	0.34	0.75	1.33	0.26	0.58	1.03	0.21	0.46	0.82	0.17	0.37	0.67
5.00	0.55	1.23	2.20	0.41	0.91	1.63	0.32	0.71	1.26	0.25	0.56	1.01	0.21	0.46	0.82
5.50	0.67	1.48	2.64	0.49	1.10	1.96	0.38	0.85	1.52	0.30	0.68	1.21	0.25	0.55	0.99
6.00	0.79	1.75	3.13	0.58	1.30	2.32	0.45	1.00	1.79	0.36	0.80	1.43	0.29	0.65	1.17
6.50	0.92	2.04	3.65	0.68	1.52	2.71	0.53	1.17	2.09	0.42	0.93	1.67	0.34	0.76	1.36
7.00	1.06	2.36	4.21	0.79	1.75	3.13	0.61	1.35	2.42	0.48	1.08	1.93	0.40	0.88	1.57

See Pressure Drop Add in Table B, page 18.

Pressure Drop Table - Models PR2, PR2F, PR3F

Pipe Connections at Same Ends of Panel

PRESSURE DROP IS FOR COMPLETE UNIT AND MEASURED IN FEET OF HEAD.

GPM	PRESSURE RATINGS														
	1 Tube High			2 Tubes High			3 Tubes High			4 Tubes High			5 Tubes High		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.21	0.46	0.82	0.05	0.12	0.22	0.02	0.06	0.10	0.01	0.03	0.06	0.01	0.02	0.04
0.75	0.45	1.00	1.79	0.12	0.26	0.47	0.05	0.12	0.22	0.03	0.07	0.12	0.02	0.04	0.08
1.00	0.79	1.75	3.13	0.21	0.46	0.82	0.09	0.21	0.38	0.05	0.12	0.22	0.04	0.08	0.14
1.50	1.72	3.83	6.84	0.45	1.00	1.79	0.21	0.46	0.82	0.12	0.26	0.47	0.08	0.17	0.31
2.00	3.00	6.67	11.91	0.79	1.75	3.13	0.36	0.80	1.43	0.21	0.46	0.82	0.13	0.30	0.53
2.50	4.61	10.26	18.33	1.21	2.69	4.81	0.55	1.23	2.20	0.32	0.71	1.26	0.21	0.46	0.82
3.00	6.56	14.59	26.06	1.72	3.83	6.84	0.79	1.75	3.13	0.45	1.00	1.79	0.29	0.65	1.17
3.50	8.83	19.65	35.09	2.32	5.16	9.21	1.06	2.36	4.21	0.61	1.35	2.42	0.40	0.88	1.57
4.00	11.42	25.42	45.40	3.00	6.67	11.91	1.37	3.05	5.45	0.79	1.75	3.13	0.51	1.14	2.03
4.50	14.34	31.91	56.99	3.76	8.37	14.96	1.72	3.83	6.84	0.99	2.20	3.92	0.64	1.43	2.55
5.00	17.57	39.10	69.84	4.61	10.26	18.33	2.11	4.69	8.38	1.21	2.69	4.81	0.79	1.75	3.13
5.50	21.12	47.00	83.95	5.54	12.33	22.03	2.53	5.64	10.07	1.45	3.24	5.78	0.95	2.10	3.76
6.00	24.98	55.60	99.30	6.56	14.59	26.06	3.00	6.67	11.91	1.72	3.83	6.84	1.12	2.49	4.45
6.50	29.15	64.88	115.88	7.65	17.03	30.41	3.50	7.79	13.91	2.01	4.47	7.98	1.31	2.90	5.19
7.00	33.64	74.86	133.70	8.83	19.65	35.09	4.04	8.98	16.04	2.32	5.16	9.21	1.51	3.35	5.99

GPM	PRESSURE RATINGS														
	6 Tubes High			7 Tubes High			8 Tubes High			9 Tubes High			10 Tubes High		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.01	0.01	0.03	0.01	0.01	0.03	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01
0.75	0.01	0.03	0.06	0.01	0.03	0.06	0.01	0.02	0.03	0.01	0.02	0.03	0.01	0.01	0.02
1.00	0.02	0.06	0.10	0.02	0.06	0.10	0.01	0.03	.0.06	0.01	0.03	0.06	0.01	0.02	0.04
1.50	0.05	0.12	0.22	0.05	0.12	0.22	0.03	0.07	0.12	0.03	0.07	0.12	0.02	0.04	0.08
2.00	0.09	0.21	0.38	0.09	0.21	0.38	0.05	0.12	0.22	0.05	0.12	0.22	0.04	0.08	0.14
2.50	0.15	0.32	0.58	0.15	0.32	0.58	0.08	0.19	0.33	0.08	0.19	0.33	0.05	0.12	0.22
3.00	0.21	0.46	0.82	0.21	0.46	0.82	0.12	0.26	0.47	0.12	0.26	0.47	0.08	0.17	0.31
3.50	0.28	0.62	1.10	0.28	0.62	1.10	0.16	0.36	0.63	0.16	0.36	0.63	0.10	0.23	0.41
4.00	0.36	0.80	1.43	0.36	0.80	1.43	0.21	0.46	0.82	0.21	0.46	0.82	0.13	0.30	0.53
4.50	0.45	1.00	1.79	0.45	1.00	1.79	0.26	0.58	1.03	0.26	0.58	1.03	0.17	0.37	0.67
5.00	0.55	1.23	2.20	0.55	1.23	2.20	0.32	0.71	1.26	0.32	0.71	1.26	0.21	0.46	0.82
5.50	0.67	1.48	2.64	0.67	1.48	2.64	0.38	0.85	1.52	0.38	0.85	1.52	0.25	0.55	0.99
6.00	0.79	1.75	3.13	0.79	1.75	3.13	0.45	1.00	1.79	0.45	1.00	1.79	0.29	0.65	1.17
6.50	0.92	2.04	3.65	0.92	2.04	3.65	0.53	1.17	2.09	0.53	1.17	2.09	0.34	0.76	1.36
7.00	1.06	2.36	4.21	1.06	2.36	4.21	0.61	1.35	2.42	0.61	1.35	2.42	0.40	0.88	1.57

See Pressure Drop Add in Table B, page 18.

Pressure Drop Table - Models PR2, PR2F, PR3F

Pipe Connections at Opposite Ends of Panel

PRESSURE DROP IS FOR COMPLETE UNIT AND MEASURED IN FEET OF HEAD.

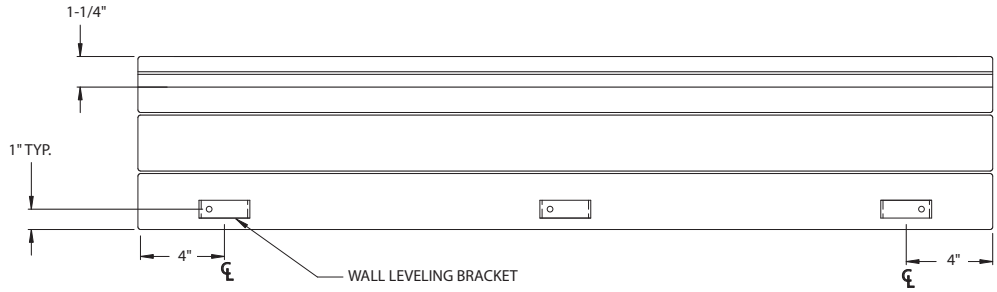
GPM	PRESSURE RATINGS														
	1 Tube High			2 Tubes High			3 Tubes High			4 Tubes High			5 Tubes High		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.05	0.12	0.22	0.01	0.03	0.06	0.01	0.01	0.03	0.00	0.01	0.01	0.00	0.01	0.01
0.75	0.12	0.26	0.47	0.03	0.07	0.12	0.01	0.03	0.06	0.01	0.02	0.03	0.01	0.01	0.02
1.00	0.21	0.46	0.82	0.05	0.12	0.22	0.02	0.06	0.10	0.01	0.03	0.06	0.01	0.02	0.04
1.50	0.45	1.00	1.79	0.12	0.26	0.47	0.05	0.12	0.22	0.03	0.07	0.12	0.02	0.04	0.08
2.00	0.79	1.75	3.13	0.21	0.46	0.82	0.09	0.21	0.38	0.05	0.12	0.22	0.04	0.08	0.14
2.50	1.21	2.69	4.81	0.32	0.71	1.26	0.15	0.32	0.58	0.08	0.19	0.33	0.05	0.12	0.22
3.00	1.72	3.83	6.84	0.45	1.00	1.79	0.21	0.46	0.82	0.12	0.26	0.47	0.08	0.17	0.31
3.50	2.32	5.16	9.21	0.61	1.35	2.42	0.28	0.62	1.10	0.16	0.36	0.63	0.10	0.23	0.41
4.00	3.00	6.67	11.91	0.79	1.75	3.13	0.36	0.80	1.43	0.21	0.46	0.82	0.13	0.30	0.53
4.50	3.76	8.37	14.96	0.99	2.20	3.92	0.45	1.00	1.79	0.26	0.58	1.03	0.17	0.37	0.67
5.00	4.61	10.26	18.33	1.21	2.69	4.81	0.55	1.23	2.20	0.32	0.71	1.26	0.21	0.46	0.82
5.50	5.54	12.33	22.03	1.45	3.24	5.78	0.67	1.48	2.64	0.38	0.85	1.52	0.25	0.55	0.99
6.00	6.56	14.59	26.06	1.72	3.83	6.84	0.79	1.75	3.13	0.45	1.00	1.79	0.29	0.65	1.17
6.50	7.65	17.03	30.41	2.01	4.47	7.98	0.92	2.04	3.65	0.53	1.17	2.09	0.34	0.76	1.36
7.00	8.83	19.65	35.09	2.32	5.16	9.21	1.06	2.36	4.21	0.61	1.35	2.42	0.40	0.88	1.57

GPM	PRESSURE RATINGS														
	6 Tubes High			7 Tubes High			8 Tubes High			9 Tubes High			10 Tubes High		
	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH	STD	MED	HIGH
0.50	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.75	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
1.00	0.01	0.01	0.03	0.00	0.01	0.02	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01
1.50	0.01	0.03	0.06	0.01	0.02	0.04	0.01	0.02	0.03	0.01	0.01	0.03	0.01	0.01	0.02
2.00	0.02	0.06	0.10	0.02	0.04	0.07	0.01	0.03	0.06	0.01	0.03	0.05	0.01	0.02	0.04
2.50	0.04	0.08	0.15	0.03	0.06	0.11	0.02	0.05	0.09	0.02	0.04	0.07	0.01	0.03	0.06
3.00	0.05	0.12	0.22	0.04	0.09	0.16	0.03	0.07	0.12	0.02	0.06	0.10	0.02	0.04	0.08
3.50	0.07	0.16	0.29	0.05	0.12	0.22	0.04	0.09	0.17	0.03	0.07	0.13	0.03	0.06	0.11
4.00	0.09	0.21	0.38	0.07	0.16	0.28	0.05	0.12	0.22	0.04	0.10	0.17	0.04	0.08	0.14
4.50	0.12	0.26	0.47	0.09	0.20	0.35	0.07	0.15	0.27	0.05	0.12	0.22	0.04	0.10	0.18
5.00	0.15	0.32	0.58	0.11	0.24	0.43	0.08	0.19	0.33	0.07	0.15	0.26	0.05	0.12	0.22
5.50	0.17	0.39	0.69	0.13	0.29	0.52	0.10	0.22	0.40	0.08	0.18	0.32	0.07	0.14	0.26
6.00	0.21	0.46	0.82	0.15	0.34	0.61	0.12	0.26	0.47	0.09	0.21	0.38	0.08	0.17	0.31
6.50	0.24	0.54	0.96	0.18	0.40	0.71	0.14	0.31	0.55	0.11	0.25	0.44	0.09	0.20	0.36
7.00	0.28	0.62	1.10	0.21	0.46	0.82	0.16	0.36	0.63	0.13	0.28	0.51	0.10	0.23	0.41

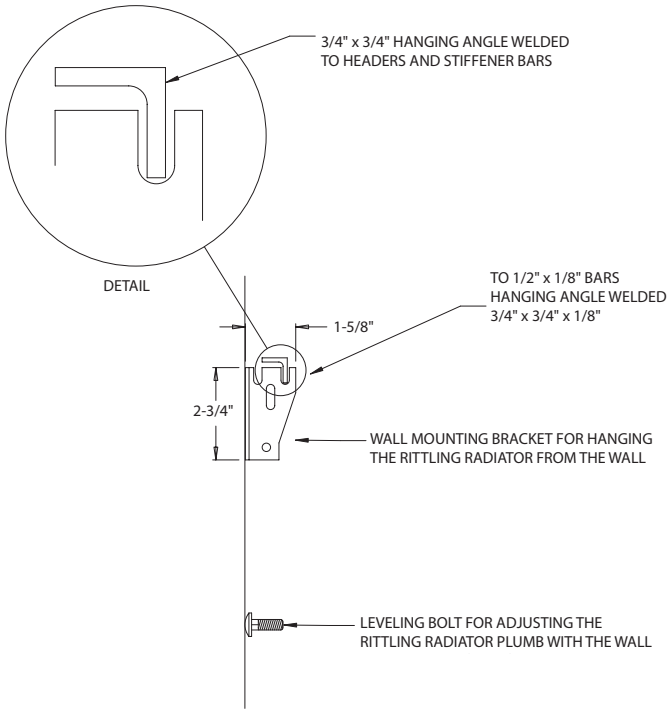
See Pressure Drop Add in Table B, page 18.

Wall Mounting - Typical Installation

Wall Mounting: PR, PR2, PR2F



TYPICAL LEVELING BRACKET INSTALLATION (BACKVIEW)



PR Panels

PANEL LENGTH	QTY. OF BRACKETS
2'0" - 5'0"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 19'8"	4 pcs

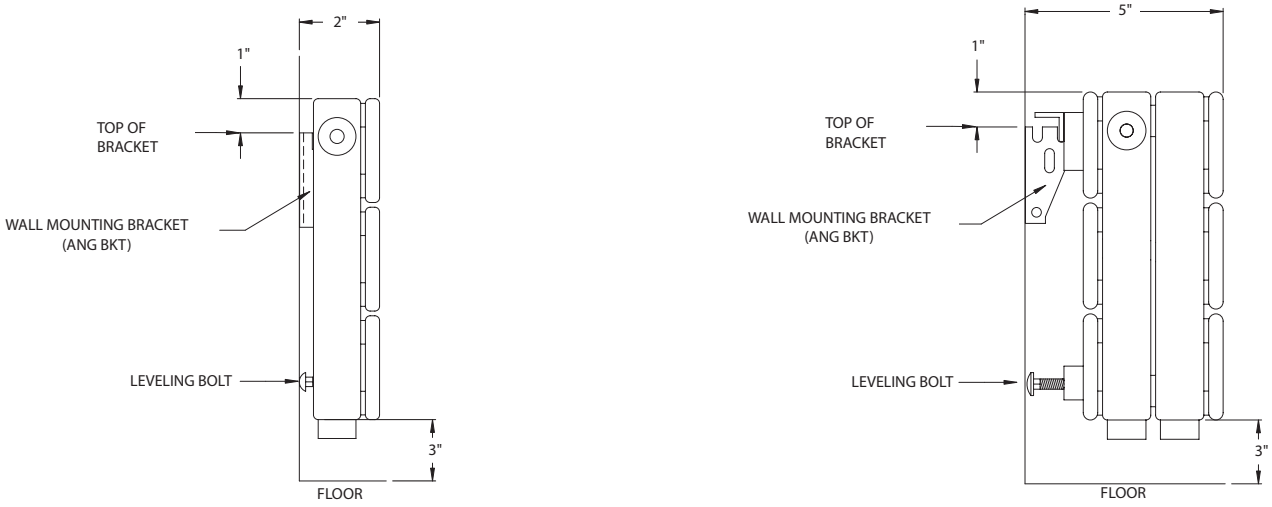
* A LEVELING BOLT IS SUPPLIED FOR EACH BRACKET

PR2, PR2F Panels

PANEL LENGTH	QTY. OF BRACKETS
2'0" - 5'0"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 16'0"	4 pcs

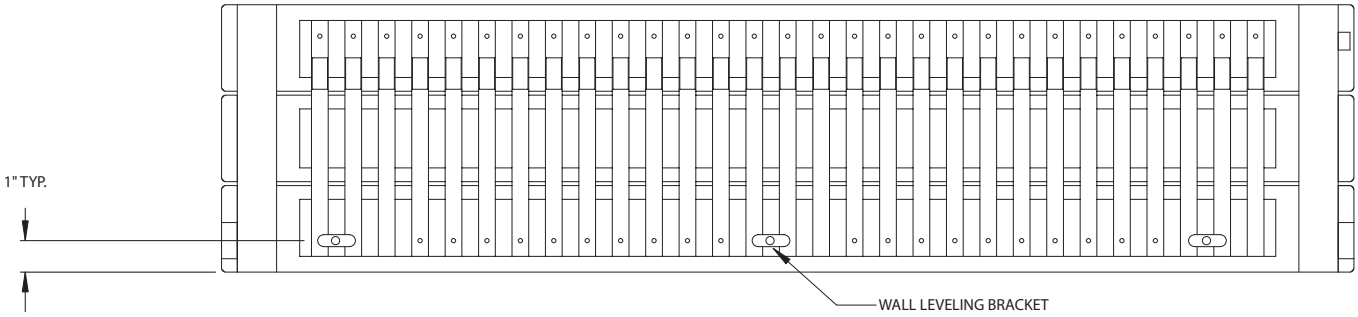
* A LEVELING BOLT IS SUPPLIED FOR EACH BRACKET

TYPICAL WALL MOUNTING BRACKET INSTALLATION



Wall Mounting - Typical Installation

Wall Mounting: PRF & PR3F



PRF Panels

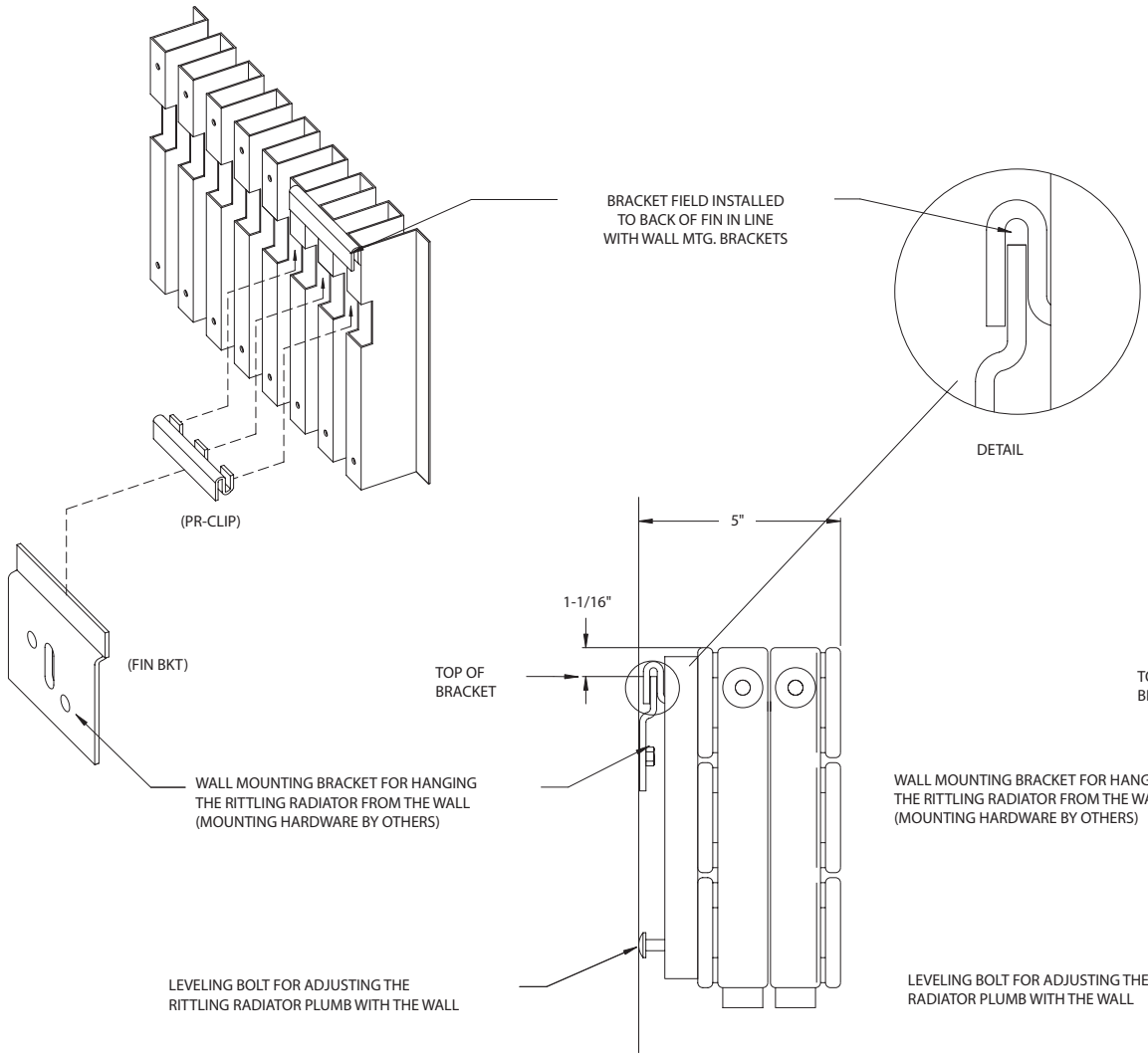
PANEL LENGTH	QTY. OF BRACKETS
2'0" - 5'0"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 19'8"	4 pcs

* A LEVELING BOLT IS SUPPLIED FOR EACH BRACKET

PR3F Panels

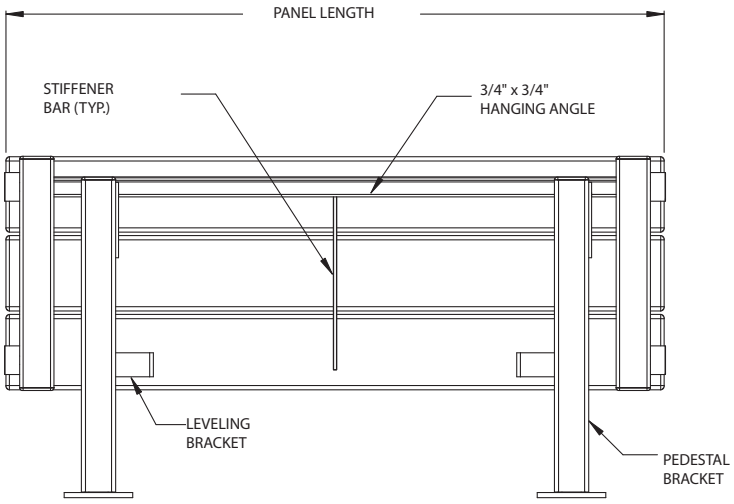
PANEL LENGTH	QTY. OF BRACKETS
2'0" - 5'0"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 16'0"	4 pcs

* A LEVELING BOLT IS SUPPLIED FOR EACH BRACKET



Pedestal Mounting

FREE STANDING FLOOR MOUNT PR



TYPICAL LEVELING BRACKET INSTALLATION (BACKVIEW)

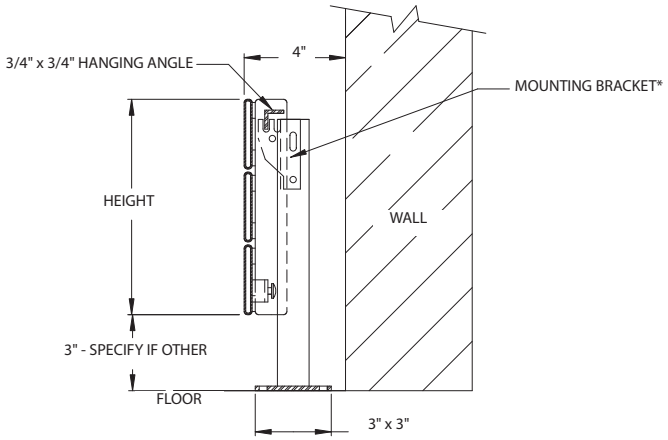
PANEL LENGTH	QTY. OF PEDESTALS BRACKETS*
2'0" - 5'0"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 19'8"	4 pcs

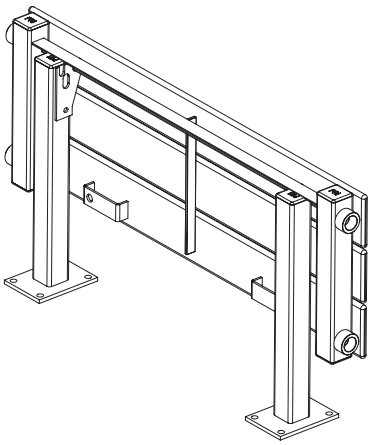
* A LEVELING BOLT IS SUPPLIED FOR EACH BRACKET

PANEL MODEL*	"HEIGHT"
PR-1	2-3/4"
PR-2	5-5/8"
PR-3	8-1/2"
PR-4	11-3/8"

* ONLY AVAILABLE UP TO 4 TUBES TALL

FREE STANDING FLOOR MOUNT FOR "PR" UNITS

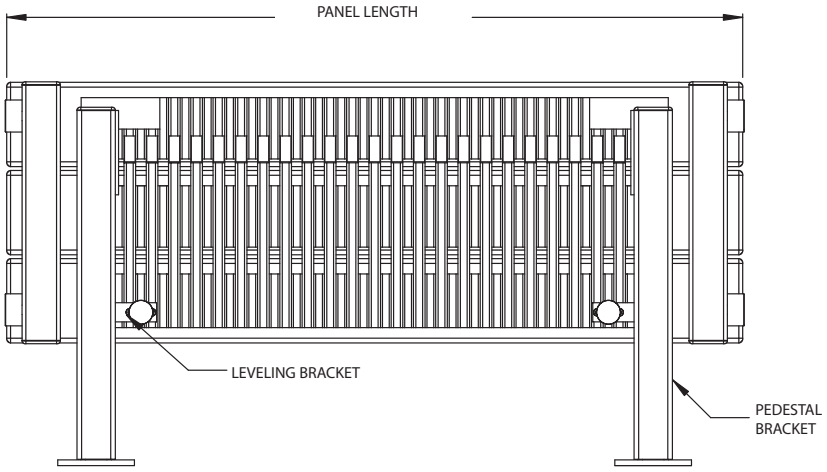




* BRACKET IS FIELD INSTALLED (HARDWARE BY OTHERS) TO POST FOR STABILITY AND STRENGTH
** ONLY AVAILABLE UP TO 4 TUBES TALL

Pedestal Mounting

FREE STANDING FLOOR MOUNT PRF

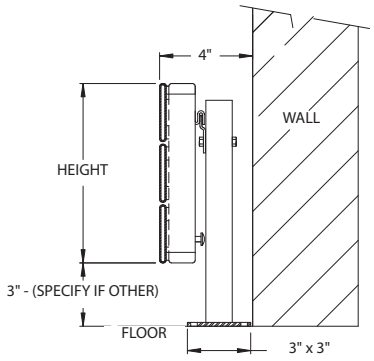


TYPICAL LEVELING BRACKET INSTALLATION (BACKVIEW)

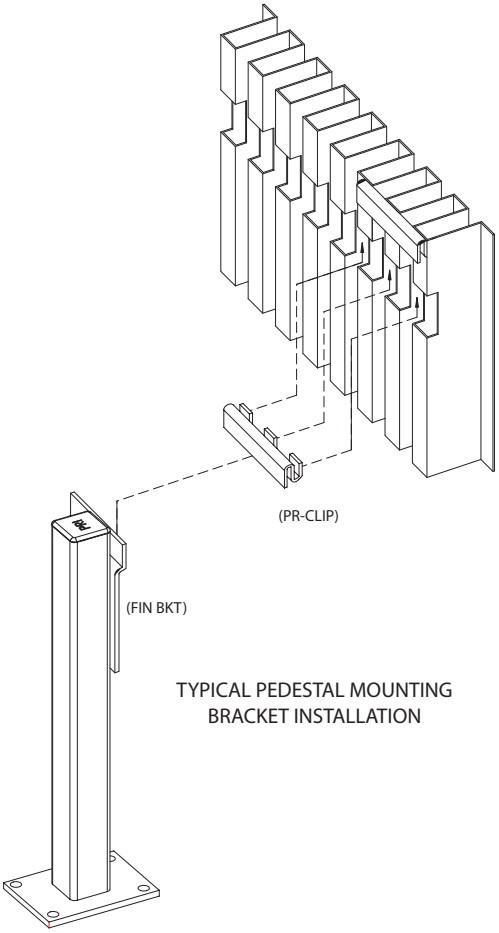
PANEL LENGTH	QTY. OF PEDESTAL BRACKETS*
2'0" - 4'9"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 19'8"	4 pcs

* A LEVELING BOLT IS SUPPLIED FOR EACH BRACKET

FREE STANDING FLOOR MOUNT FOR "PRF" UNITS



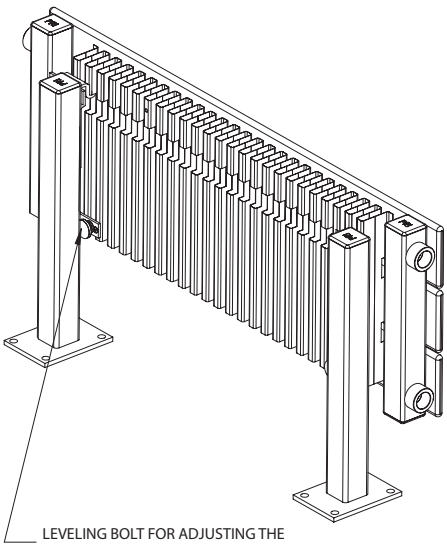
* BRACKET IS FIELD INSTALLED (HARDWARE BY OTHERS) TO POST FOR STABILITY AND STRENGTH
** ONLY AVAILABLE UP TO 4 TUBES TALL



TYPICAL PEDESTAL MOUNTING BRACKET INSTALLATION

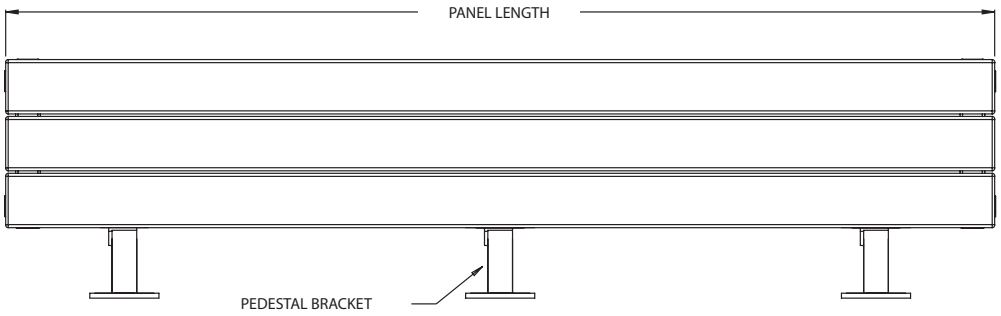
PANEL MODEL*	"HEIGHT"
PRF-1	2-3/4"
PRF-2	5-5/8"
PRF-3	8-1/2"
PRF-4	11-3/8"

* ONLY AVAILABLE UP TO 4 TUBES TALL



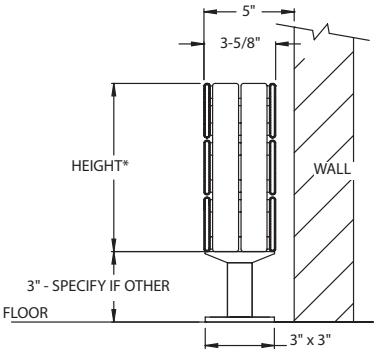
Pedestal Mounting

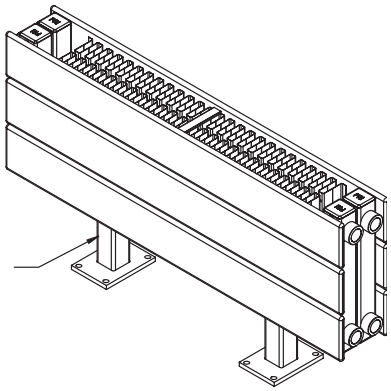
PEDESTAL MOUNTING PR2, PR2F, & PR3F



PANEL LENGTH	QTY. OF PEDESTAL BRACKETS *
2'0" - 4'9"	2 pcs
5'2" - 11'6"	3 pcs
11'8" - 16'0"	4 pcs

FREE STANDING FLOOR MOUNT
FOR PR2 AND PR2F UNITS

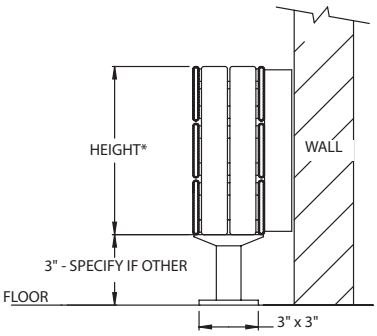


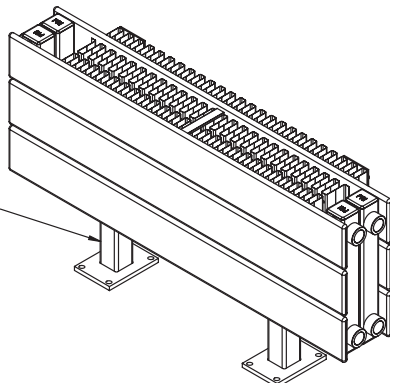


PANEL MODEL*	HEIGHT
PR2-1 - PR2F-1 - PR3F-1	2-3/4"
PR2-2 - PR2F-2 - PR3F-2	5-5/8"
PR2-3 - PR2F-3 - PR3F-3	8-1/2"
PR2-4 - PR2F-4 - PR3F-4	11-3/8"

* ONLY AVAILABLE UP TO 4 TUBES TALL

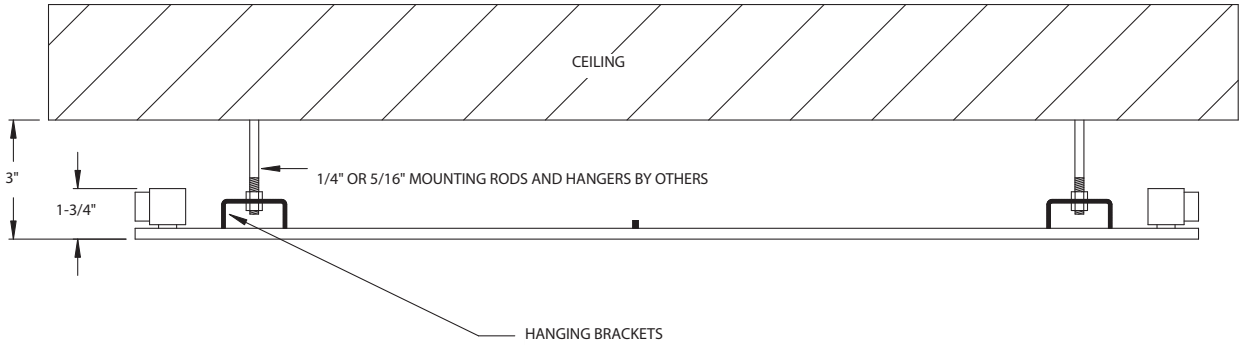
FREE STANDING FLOOR MOUNT
FOR PR3F UNITS



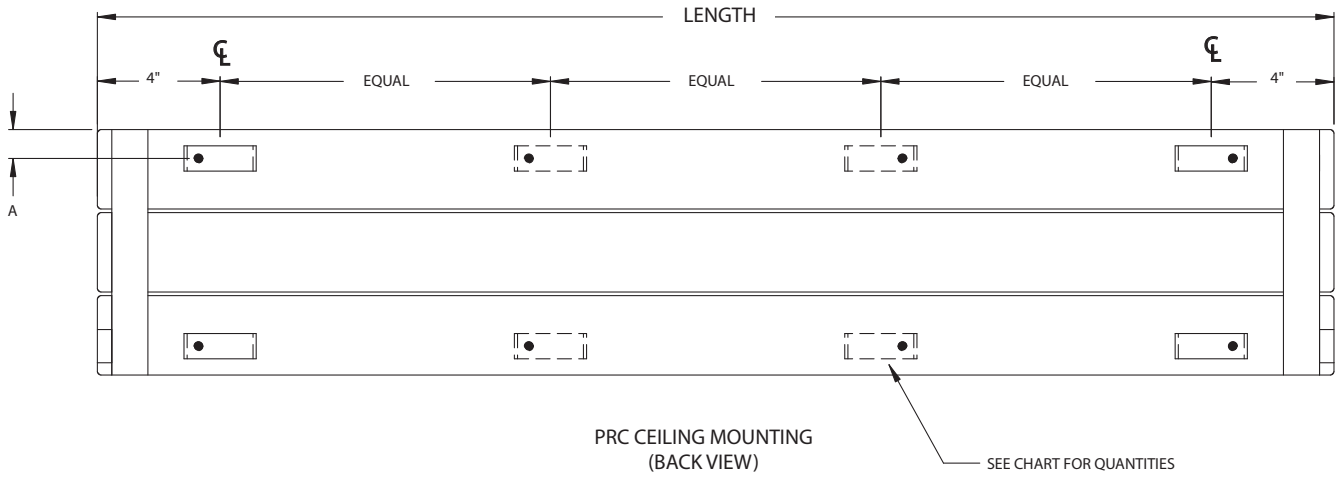


PRC Mounting - Typical Installation

PRC CEILING MOUNTING



DIMENSIONAL DATA		
	1-4 TUBES	5+ TUBES
A	1"	4"

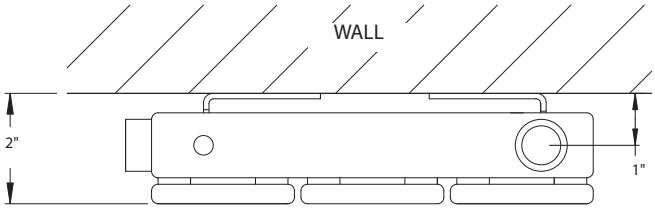


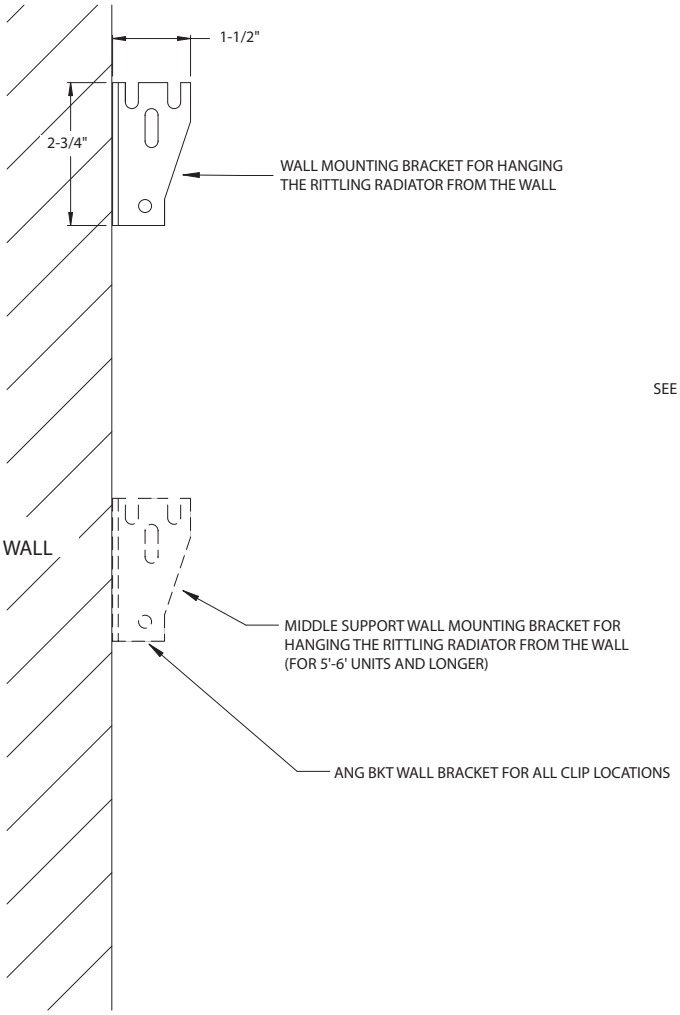
PRC CEILING MOUNTING
(BACK VIEW)

PANEL LENGTH	MOUNTING POINTS
2'0" - 5'0"	4
5'2" - 11'6"	6
11'8" - 19'8"	8
19'10" - 20'0"	10

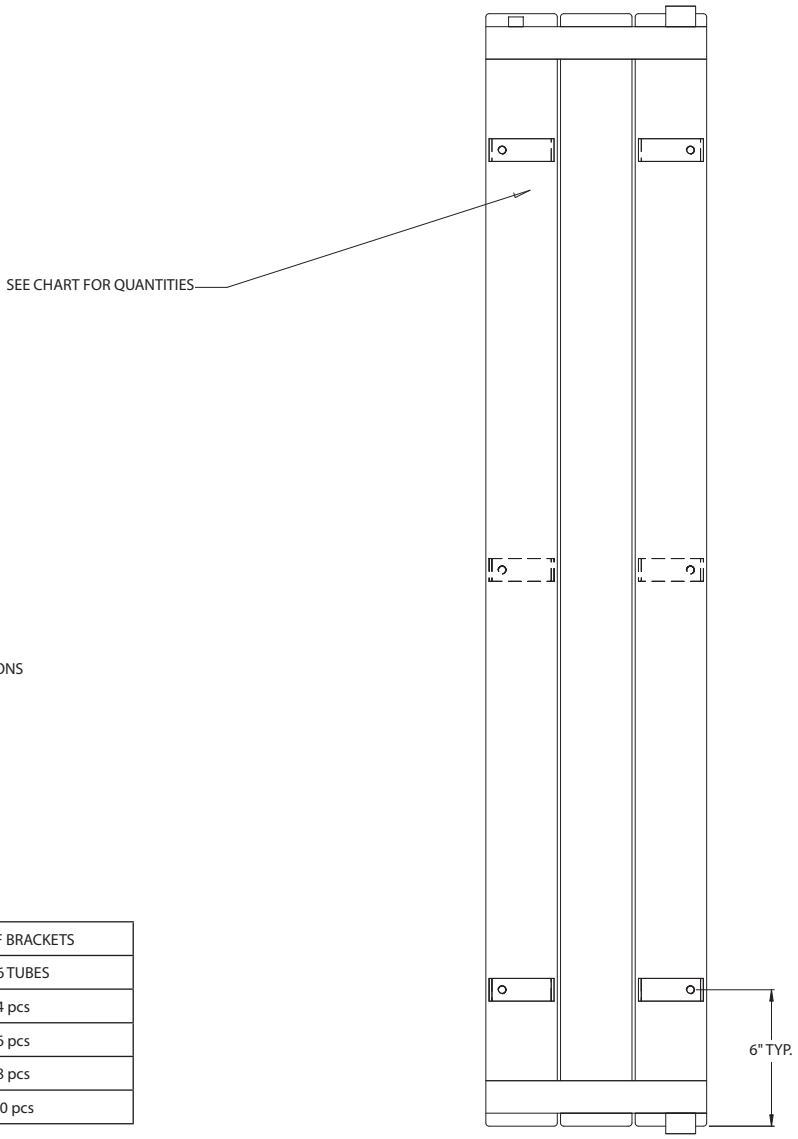
PRV Mounting - Typical Installation

PRV MOUNTING





WALL MOUNTING PRV
(BACK VIEW)



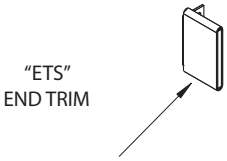
PANEL LENGTH	QTY. OF BRACKETS
	2 - 6 TUBES
2'0" - 4'0"	4 pcs
4'2" - 7'0"	6 pcs
7'2" - 9'10"	8 pcs
10'0" - 12'8"	10 pcs

(2) LEVELING BOLTS SUPPLIED WITH EACH UNIT 6 TUBES AND LESS
(3) LEVELING BOLTS SUPPLIED WITH EACH UNIT 7 TUBES AND MORE

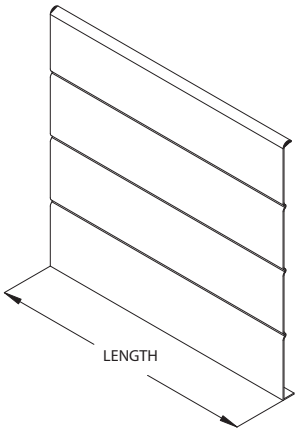
Standard Trim Accessories

Standard trim accessories rest on the top portion of the upper tube and snaps in place at the bottom of the lower tube. Available in 12" and 24" lengths, a maximum of 10 tubes high. End caps available in 2-1/8" or 5-1/4" depths.

"ETS"
END TRIM

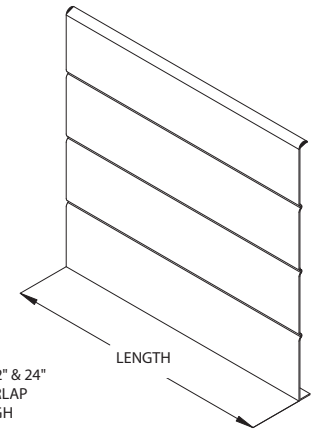


"ETSB"
END TRIM SUPPORT BRACKET
(2 PCS. PER TRIM)
[Clip enlarged for clarity]



STANDARD LENGTHS 12" & 24"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

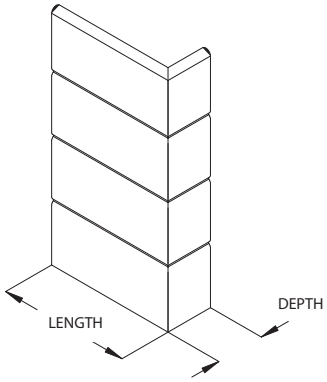
"CTS"
CENTER TRIM



STANDARD LENGTHS 12" & 24"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

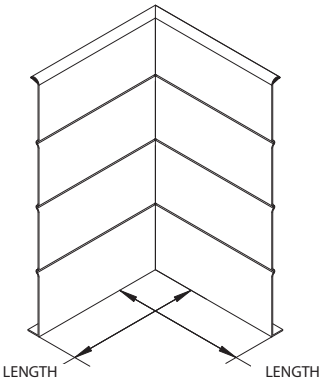
"ELS" & "ERS"
END CAP TRIM

STYLE	DEPTH	LENGTH
PR PRF	2-1/8" 2-1/8"	10" or 24" 10" or 24"
PR2F PR3F	5-1/4" 5-1/4"	10" or 24" 10" or 24"



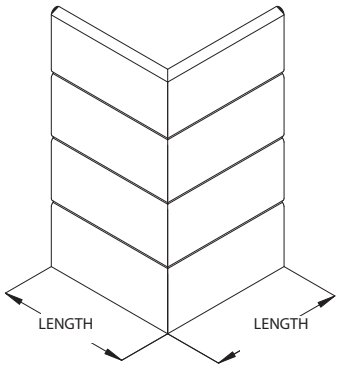
90 DEG. ANGLE STANDARD
STANDARD LENGTHS 10" & 24"
SPECIFY LEFT OR RIGHT (RIDE SIDE SHOWN)
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"1C"
INSIDE
CORNER TRIM



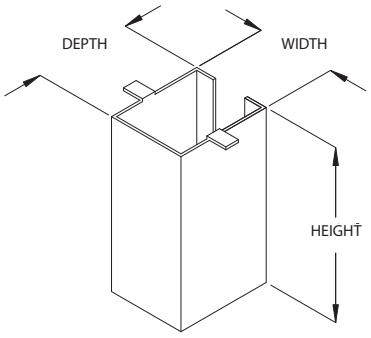
90 DEG. ANGLE STANDARD
STANDARD LENGTHS 6" x 6" & 12" x 12"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"0C"
OUTSIDE
CORNER TRIM



90 DEG. ANGLE STANDARD
STANDARD LENGTHS 6" x 6" & 12" x 12"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"PRVPT"
VERTICAL
PIPE TRIM

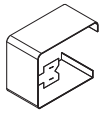


STANDARD SIZES:
WIDTH 1-3/16"
DEPTH 1-3/16"
HEIGHT 3"
UP TO 10" HEIGHT AVAILABLE

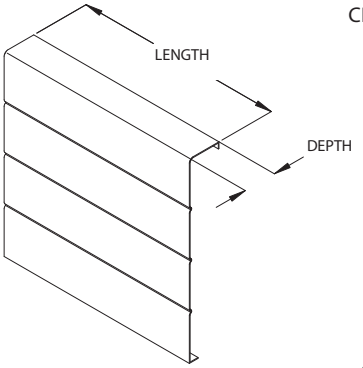
Full Trim Accessories

Full trim accessories have a flat straight piece that covers the top of the radiator and snaps in place at the bottom of the lower tube. Available in 12" and 24" lengths, a maximum of 10 tubes high. End caps available in 2", 3-3/8" or 4-3/4" depths.

"ETF"
END TRIM

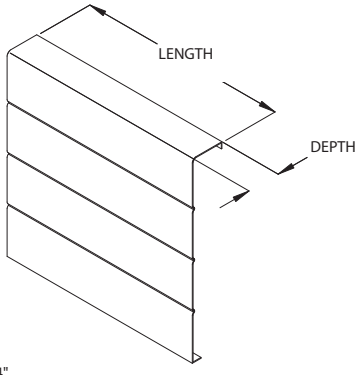


"ETFSB"
END TRIM SUPPORT BRACKET
(2 PCS. PER TRIM)
[Clip enlarged for clarity]



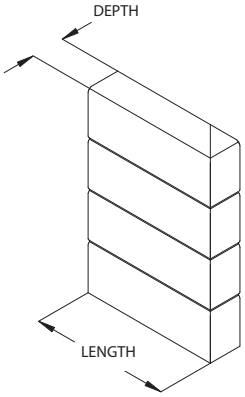
STANDARD LENGTHS 12" & 24"
REQUIRED 3" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"CTF"
CENTER TRIM



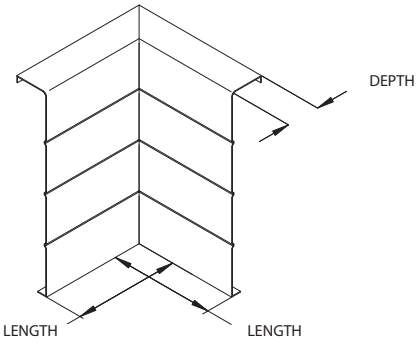
STANDARD LENGTHS 12" & 24"
REQUIRED 3" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"ELF" & "ERF"
END CAP TRIM



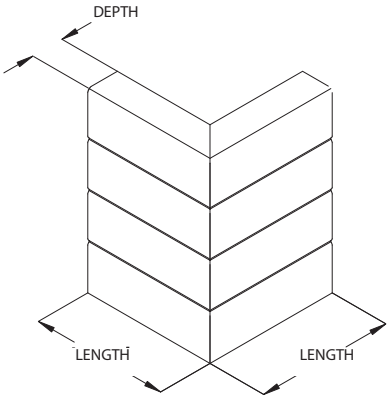
90 DEG. ANGLE STANDARD
STANDARD LENGTHS 12" & 24"
SPECIFY LEFT OR RIGHT (RIGHT SIDE SHOWN)
REQUIRED 3" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"1C"
INSIDE CORNER
TRIM



90 DEG. ANGLE STANDARD
STANDARD LENGTHS 6" x 6" & 12" x 12"
REQUIRED 3" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

"0C"
OUTSIDE
CORNER TRIM



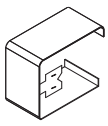
90 DEG. ANGLE STANDARD
STANDARD LENGTHS 6" x 6" & 12" x 12"
REQUIRED 3" MIN. OVERLAP
1 TUBE TO 10 TUBES HIGH

STYLE	DEPTH	MOUNTING
PR & PRF	2"	PEDESTAL
PR & PRF	2"	WALL
PR2 & PR2F	3-3/8"	PEDESTAL
PR2 & PR2F	4-3/4"	WALL
PR3F	3-3/8"	PEDESTAL
PR3F	4-3/4"	WALL

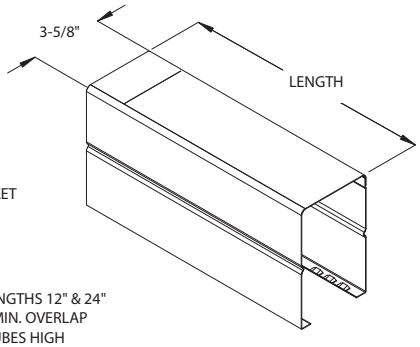
Saddle Trim Accessories

Saddle trim accessories are available only for pedestal models PR2 and PR2F. Trim piece wraps around covering the front, top and back side of the radiator and snaps in place at the bottom of the lower tubes. Available up to 4 tubes high in 12" and 24" lengths.

"ETD"
END TRIM

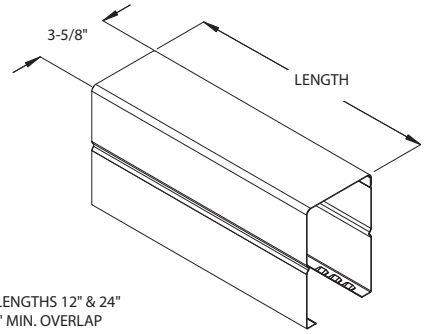


"ETFSB"
END TRIM SUPPORT BRACKET
(2 PCS. PER TRIM)
[Clip enlarged for clarity]



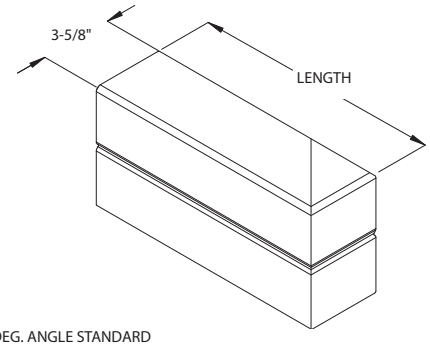
STANDARD LENGTHS 12" & 24"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 4 TUBES HIGH

"CTD"
CENTER TRIM



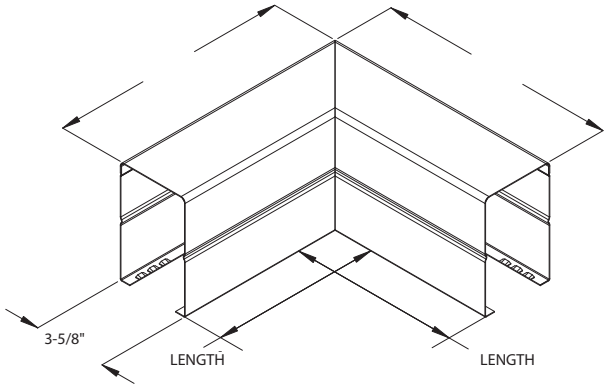
STANDARD LENGTHS 12" & 24"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 4 TUBES HIGH

"ELD" & "ERD"
END CAP TRIM



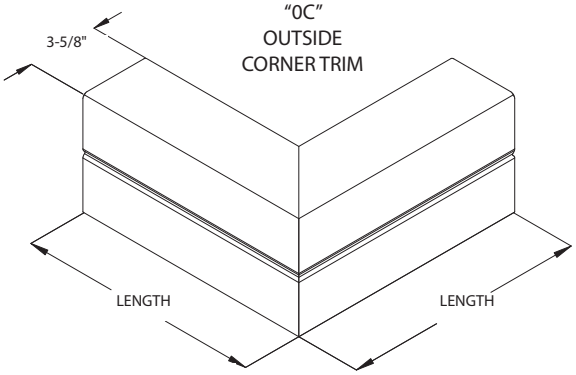
90 DEG. ANGLE STANDARD
STANDARD LENGTHS 12" & 24"
SPECIFY LEFT OR RIGHT (RIGHT SIDE SHOWN)
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 4 TUBES HIGH

"1C"
INSIDE CORNER
TRIM



90 DEG. ANGLE STANDARD
STANDARD LENGTHS 6" x 6" & 12" x 12"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 4 TUBES HIGH

"0C"
OUTSIDE
CORNER TRIM



90 DEG. ANGLE STANDARD
STANDARD LENGTHS 6" x 6" & 12" x 12"
REQUIRED 2" MIN. OVERLAP
1 TUBE TO 4 TUBES HIGH

GENERAL NOTES:

1. ONLY AVAILABLE ON PR2 & PR2F MODELS
2. ONLY AVAILABLE UP TO 4 TUBES HIGH
3. STANDARD APPLICATION IS PEDESTAL MOUNTED RITTLING RADIATORS

Warranty

Zehnder Rittling guarantees its products to be free from defects in material and workmanship for a period of five years from date of shipment from our factory.

Should there be any defects in the good(s), the purchaser should promptly notify Zehnder Rittlng. Upon receipt of written consent from Zehnder Rittling, the purchaser shall return the defective good(s) to the factory for inspection with freight prepaid. If inspection shows the goods to be defective, Zehnder Rittling will, at its discretion, repair or replace the said item(s).

Defects arising from damage due to shipment, improper installation, negligence or misuse by others are not covered by this warranty.

This warranty is extended only to the original purchaser from Zehnder Rittling.

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